

W

586



# KEUFFEL & ESSER CO.

DRAWING MATERIALS  
AND  
SURVEYING INSTRUMENTS.  
NEW YORK.

CHICAGO. ST. LOUIS. SAN FRANCISCO. MONTREAL.

## TABLES FOR EXCAVATIONS AND EMBANKMENTS.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.  
ROADWAY 18 FEET WIDE. SIDE SLOPES 1 TO 1.  
FOR SINGLE TRACK EXCAVATION.

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|    | 0    | .1   | .2   | .3   | .4   | .5   | .6   | .7   | .8   | .9   |    |
|----|------|------|------|------|------|------|------|------|------|------|----|
| 0  | 9.0  | 9.1  | 9.2  | 9.3  | 9.4  | 9.5  | 9.6  | 9.7  | 9.8  | 9.9  | 0  |
| 1  | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 1  |
| 2  | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 | 2  |
| 3  | 12.0 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 | 3  |
| 4  | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.9 | 4  |
| 5  | 14.0 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 5  |
| 6  | 15.0 | 15.1 | 15.2 | 15.3 | 15.4 | 15.5 | 15.6 | 15.7 | 15.8 | 15.9 | 6  |
| 7  | 16.0 | 16.1 | 16.2 | 16.3 | 16.4 | 16.5 | 16.6 | 16.7 | 16.8 | 16.9 | 7  |
| 8  | 17.0 | 17.1 | 17.2 | 17.3 | 17.4 | 17.5 | 17.6 | 17.7 | 17.8 | 17.9 | 8  |
| 9  | 18.0 | 18.1 | 18.2 | 18.3 | 18.4 | 18.5 | 18.6 | 18.7 | 18.8 | 18.9 | 9  |
| 10 | 19.0 | 19.1 | 19.2 | 19.3 | 19.4 | 19.5 | 19.6 | 19.7 | 19.8 | 19.9 | 10 |
| 11 | 20.0 | 20.1 | 20.2 | 20.3 | 20.4 | 20.5 | 20.6 | 20.7 | 20.8 | 20.9 | 11 |
| 12 | 21.0 | 21.1 | 21.2 | 21.3 | 21.4 | 21.5 | 21.6 | 21.7 | 21.8 | 21.9 | 12 |
| 13 | 22.0 | 22.1 | 22.2 | 22.3 | 22.4 | 22.5 | 22.6 | 22.7 | 22.8 | 22.9 | 13 |
| 14 | 23.0 | 23.1 | 23.2 | 23.3 | 23.4 | 23.5 | 23.6 | 23.7 | 23.8 | 23.9 | 14 |
| 15 | 24.0 | 24.1 | 24.2 | 24.3 | 24.4 | 24.5 | 24.6 | 24.7 | 24.8 | 24.9 | 15 |
| 16 | 25.0 | 25.1 | 25.2 | 25.3 | 25.4 | 25.5 | 25.6 | 25.7 | 25.8 | 25.9 | 16 |
| 17 | 26.0 | 26.1 | 26.2 | 26.3 | 26.4 | 26.5 | 26.6 | 26.7 | 26.8 | 26.9 | 17 |
| 18 | 27.0 | 27.1 | 27.2 | 27.3 | 27.4 | 27.5 | 27.6 | 27.7 | 27.8 | 27.9 | 18 |
| 19 | 28.0 | 28.1 | 28.2 | 28.3 | 28.4 | 28.5 | 28.6 | 28.7 | 28.8 | 28.9 | 19 |
| 20 | 29.0 | 29.1 | 29.2 | 29.3 | 29.4 | 29.5 | 29.6 | 29.7 | 29.8 | 29.9 | 20 |
| 21 | 30.0 | 30.1 | 30.2 | 30.3 | 30.4 | 30.5 | 30.6 | 30.7 | 30.8 | 30.9 | 21 |
| 22 | 31.0 | 31.1 | 31.2 | 31.3 | 31.4 | 31.5 | 31.6 | 31.7 | 31.8 | 31.9 | 22 |
| 23 | 32.0 | 32.1 | 32.2 | 32.3 | 32.4 | 32.5 | 32.6 | 32.7 | 32.8 | 32.9 | 23 |
| 24 | 33.0 | 33.1 | 33.2 | 33.3 | 33.4 | 33.5 | 33.6 | 33.7 | 33.8 | 33.9 | 24 |
| 25 | 34.0 | 34.1 | 34.2 | 34.3 | 34.4 | 34.5 | 34.6 | 34.7 | 34.8 | 34.9 | 25 |
| 26 | 35.0 | 35.1 | 35.2 | 35.3 | 35.4 | 35.5 | 35.6 | 35.7 | 35.8 | 35.9 | 26 |
| 27 | 36.0 | 36.1 | 36.2 | 36.3 | 36.4 | 36.5 | 36.6 | 36.7 | 36.8 | 36.9 | 27 |
| 28 | 37.0 | 37.1 | 37.2 | 37.3 | 37.4 | 37.5 | 37.6 | 37.7 | 37.8 | 37.9 | 28 |
| 29 | 38.0 | 38.1 | 38.2 | 38.3 | 38.4 | 38.5 | 38.6 | 38.7 | 38.8 | 38.9 | 29 |
| 30 | 39.0 | 39.1 | 39.2 | 39.3 | 39.4 | 39.5 | 39.6 | 39.7 | 39.8 | 39.9 | 30 |
| 31 | 40.0 | 40.1 | 40.2 | 40.3 | 40.4 | 40.5 | 40.6 | 40.7 | 40.8 | 40.9 | 31 |
| 32 | 41.0 | 41.1 | 41.2 | 41.3 | 41.4 | 41.5 | 41.6 | 41.7 | 41.8 | 41.9 | 32 |
| 33 | 42.0 | 42.1 | 42.2 | 42.3 | 42.4 | 42.5 | 42.6 | 42.7 | 42.8 | 42.9 | 33 |
| 34 | 43.0 | 43.1 | 43.2 | 43.3 | 43.4 | 43.5 | 43.6 | 43.7 | 43.8 | 43.9 | 34 |
| 35 | 44.0 | 44.1 | 44.2 | 44.3 | 44.4 | 44.5 | 44.6 | 44.7 | 44.8 | 44.9 | 35 |
| 36 | 45.0 | 45.1 | 45.2 | 45.3 | 45.4 | 45.5 | 45.6 | 45.7 | 45.8 | 45.9 | 36 |

Calculated by Julien A. Hall, M. Am. Soc. C. E.

586

DRILLING GROUT HOLES  
BOOK No. 3

MICROFILMED

JAN 13 1965



|          |           |        |  |
|----------|-----------|--------|--|
| Hole No. | Top Elev. | Date   |  |
| 9-22     | 442.0     | 4-6-42 |  |

|           |             |                 |
|-----------|-------------|-----------------|
| Inspector | Foreman     | Crew No. Page 1 |
| Cavanaugh | Paul Betzer | 2 (Richardson)  |

| Time       |            | Depth |         | Core   |
|------------|------------|-------|---------|--------|
| From       | To         | From  | To      | Recov. |
| 7:30 A.M.  | 12:30 P.M. | 0.0   | 79.0    | 7.3    |
| 8:00 A.M.  | 8:30 A.M.  | 0-30  | set up. |        |
| 8:30 A.M.  | 12:00 N    | 3-30  | 0.0     | 79.0   |
| 12:00 N    | 12:30 P.M. | 0-30  | lunch   |        |
| 12:30 P.M. | 2:00 P.M.  | 1-30  | 79.0    | 86.3   |
| 2:00 P.M.  | 3:45 P.M.  | 1-45  | 86.3    | 97.3   |
|            |            |       |         | 11.0   |

| Perc. Dr. H. | Core Dr. H. | Re-Dr. H. | W.O. ft. | Time (Hr.-Min.) |      |
|--------------|-------------|-----------|----------|-----------------|------|
|              |             |           |          | M.&S.U.         | Lost |
|              |             |           |          |                 |      |
|              |             | 79.0      |          | 0-30            |      |
|              |             |           |          |                 | 0-30 |
|              | 7.3         |           |          |                 |      |
|              | 11.0        |           |          |                 |      |

Hole No 9-22-442.0 Date 4-6-42.

|            |            |      |                     |        |
|------------|------------|------|---------------------|--------|
| 3:45 P.M.  | 5:00 P.M.  | 1-55 | 97.3                | 108    |
| 5:00 P.M.  | 5:40 P.M.  | 0-46 | removing core 10.75 |        |
| 5:40 P.M.  | 5:55 P.M.  | 0-15 | made a water        |        |
| 5:55 P.M.  | 7:00 P.M.  | 1-05 | 108.0               | 118.17 |
| 7:00 P.M.  | 7:30 P.M.  | 0-30 | removing core 10.17 |        |
| 7:30 P.M.  | 8:00 P.M.  | 0-30 | 118.17              |        |
| 8:00 P.M.  | 8:30 P.M.  | 0-30 | lunch               |        |
| 8:30 P.M.  | 9:30 P.M.  | 1-00 | 129.0               |        |
| 9:30 P.M.  | 10:05 P.M. | 0-35 | removing core 9.5   |        |
| 10:05 P.M. | 11:30 P.M. | 1-25 | 129.0               | 139.75 |
| 11:30 P.M. | 12:00 P.M. | 0-30 | removing core 0.0   |        |
| 12:        |            |      | water tested        |        |

D.R. Curry / Dan McConzie 2 (Simmons)

10.75

core very good.

test took 2.0 cuft at 150 lbs.

10.17

This core is all in one piece.

10.83

Some of this core very badly broken.

10.75

Core all remained in the hole

Tested 0.15

|     |      |      |     |  |  |
|-----|------|------|-----|--|--|
| 0.0 | 60.8 | 79.0 | 0.0 |  |  |
|-----|------|------|-----|--|--|

P.L.



Hole No. 10-0 Top Elev. 442.4 Date 4-6-42

Inspector Cavanaugh by J.R.C. Foreman Paul Betzer Crew No. 1 (Betzer) Page 2

| Time      |           | Depth |           | Core   |
|-----------|-----------|-------|-----------|--------|
| From      | To        | From  | To        | Recov. |
| 8:05 a.m. | 9:30 a.m. | 1-25  | 88.0 98.0 | 9.0    |

| Perc. Dr. ft. | Core Dr. ft. | Re-Dr. ft. | W.O. ft. | Time (Hr.-Min.) |      |
|---------------|--------------|------------|----------|-----------------|------|
|               |              |            |          | M.&S.U.         | Lost |
|               | 10.0         |            |          |                 |      |

1:00 PM Made water Test O.K.

O.K.

Hole No. 10-0-442.4 Date 4-6-42

J.R. Curry Jan McKenzie 1 (McKenzie)

|         |         |      |                    |      |
|---------|---------|------|--------------------|------|
| 1:00 PM | 4:00 PM | 3-00 | 98.0 108.5         |      |
| 4:00 PM | 4:40 PM | 0-40 | removing Core      | 7.5  |
| 4:40    | 5:55    | 1-15 | 108.5 118.5        |      |
| 5:55    | 6:20    | 0-25 | removing core      | 2.25 |
| 6:20    | 7:00    | 0-40 | 118.5 121.5        |      |
| 7:00    |         |      | Moving to hole 8-0 |      |

|      |  |  |  |  |  |
|------|--|--|--|--|--|
| 10.5 |  |  |  |  |  |
|      |  |  |  |  |  |
|      |  |  |  |  |  |
|      |  |  |  |  |  |
|      |  |  |  |  |  |
|      |  |  |  |  |  |

No record of drilling  
78.0 88.0

Some core very Fractured Some Good,  
Core very Badly broken.  
3 ft of core remains in hole.  
Grout pipe loose.

0.0 43.5 0.0 0.0

pl.



Hole No. 8-0 Top Elev. 442.9 Date 4-6-42

Inspector D.R. Curry Foreman Hanley Kenzie Crew No. (McKenzie) Page 3

| Time             |                      | Depth    |                | Core   |
|------------------|----------------------|----------|----------------|--------|
| From             | To                   | Hr.-Min. | From To        | Recov. |
| 7:00 P.M.        | 7:30 P.M.            | 0-30     | Moving & Setup |        |
| 7:30 P.M.        | 8:00 P.M.            | 0-30     | 0.0            |        |
| 8:00 P.M.        | 8:30 P.M.            | 0-30     | lunch          |        |
| 8:30 P.M.        | 10:30 P.M.           | 2-00     | 29.0           |        |
| 10:30 P.M.       | 11:40 P.M.           | 1-10     | 29.0 39.0      |        |
| 11:40 P.M.       | 11:55 P.M.           | 0-15     | removing core  | 5.25   |
| <del>12:00</del> | <del>2:00 P.M.</del> |          |                |        |

| Perc. Dr. ft. | Core Dr. ft.              | Re-Dr. ft. | W.O. ft. | Time (Hr.-Min.) |      |
|---------------|---------------------------|------------|----------|-----------------|------|
|               |                           |            |          | M.&S.U.         | Last |
|               |                           |            |          |                 | 0-30 |
|               |                           |            |          |                 | 0-30 |
|               |                           | 29.0       |          |                 |      |
|               | 10.0                      |            |          |                 |      |
|               | approx 5' of core missing |            |          |                 |      |
|               | 10.0                      |            |          |                 |      |
|               | 7.9                       |            |          |                 |      |

4-7-42 GY shift McCown  
 12 00 2 00 P.M. 2-0 39 49 2.5  
 2 00 3 35 P.M. 1-35 49 56.9 2.0

0.0 27.9 29.0 0.0

pl



Hole No. 9+22 Top Elev. 442.0 Date A-7-42 GY.

Inspector McCown Foreman \_\_\_\_\_ Crew No. Page 4

| Time |    | Depth    |      | Core |        |
|------|----|----------|------|------|--------|
| From | To | Hr.-Min. | From | To   | Recov. |

| Perc. Dr. ft. | Core Dr. ft. | Re-Dr. ft. | W.O. ft. | Time (Hr.-Min.) |      |
|---------------|--------------|------------|----------|-----------------|------|
|               |              |            |          | M.&S.U.         | Lost |

*Continued from page 1*

*this book*

|                  |                    |                 |                  |                |                 |
|------------------|--------------------|-----------------|------------------|----------------|-----------------|
| <del>12-15</del> | <del>3:10 PM</del> | <del>2 55</del> | <del>128.5</del> | <del>139</del> | <del>10.5</del> |
| 3-10             | 7:15 PM            | 4 05            | 139.8            | 151            | 10.5            |
|                  |                    |                 | 8                |                |                 |

~~10.5~~ Core one piece, drilled on swing shift this time pulling  
~~12.0~~ Core broken 6" to 4 1/2"  
 11.2

0.0 11.2 0.0 0.0



Hole No. 8+23 Top Elev. \_\_\_\_\_ Date 4-7-42 GT

Inspector McGowan Foreman \_\_\_\_\_ Crew No. \_\_\_\_\_ Page 5

| Time |    | Depth |    | Core   |
|------|----|-------|----|--------|
| From | To | From  | To | Recov. |

| Perc. Dr. ft. | Core Dr. ft. | Re. Dr. ft. | W.O. ft. | Time (Hr.-Min.) |      |
|---------------|--------------|-------------|----------|-----------------|------|
|               |              |             |          | M.&SU.          | Last |

4:30 pm                      52.0    75.0<sup>0</sup>

Drilling grout  
23.0

0    75.0  
This hole was washed out by Allen 8: - 8:30 am  
N.R.E.  
no. Record kept.

0.0    0.0    23.0    75.0



Hole No. 6-25  
 Top Elev. -----  
 Date 4-9-42

| Time               |                      | Hr.-Min. | Depth               |      | Core Recov. |
|--------------------|----------------------|----------|---------------------|------|-------------|
| From               | To                   |          | From                | To   |             |
| 8:00 <sup>Am</sup> | 9:30                 | 1-30     | 11                  | 27.5 |             |
| 9:36 AM            | 10:30                | 1-00     | 27.5                | 34.0 | 6.4         |
| 10:30 AM           | 10:50 AM             | 0-20     |                     |      | Remove Core |
| 10:50 AM           | 12:15 PM             | 1-25     | 34.0                | 44.5 | 10.2        |
| 12:15 PM           | 12:30 <sup>P.m</sup> | 0-15     |                     |      | Remove core |
| 12:30 PM           | 1:40                 | 1-10     |                     |      | Repairing   |
| 1:40 PM            | 2:55                 | 1-15     | 44.5                | 54.7 | 10.1        |
| 4:00 PM            | 5:00 PM              | 1-00     | 54.7                | 61.5 |             |
| 5:00 P.M.          | 5:20 PM              | 0-20     | removing core       |      | 2.25        |
| 5:20 PM            | 7:00 P.M.            | 1-40     | 61.5                | 71.5 |             |
| 7:00 P.M.          | 7:30 PM              | 0-30     | removing core       |      | 1.1         |
| 7:30 P.M.          | 8:00 PM              | 0-30     | 71.5                |      |             |
| 8:00 PM            | 8:30 PM              | 0-30     | Lunch               |      |             |
| 8:30 P.M.          | 9:30 PM              | 1-00     | 71.5                | 77.5 |             |
| 9:30 PM            | 10:00 PM             | 0-30     | removing core       |      | 6.0         |
| 10:00 PM           | 10:45 PM             | 0-45     | 77.5                | 82.5 |             |
| 10:45 PM           | 11:00 PM             | 0-15     | removing core       |      | 5.5         |
| 11:00 PM           |                      |          | Moving to hole 6-23 |      |             |

Inspector Adalah Back  
 Foreman Betsey  
 Crew No. 1 Page 6

| Perc. Dr. ft. | Core Dr. ft. | Re-Dr. ft. | W.O. ft. | Time (Hr.-Min.) |      |
|---------------|--------------|------------|----------|-----------------|------|
|               |              |            |          | M. & S.U.       | Lost |
|               | 6.5          | 16.5       |          |                 |      |
|               |              |            |          |                 |      |
|               | 10.5         |            |          |                 |      |
|               |              |            |          |                 |      |
|               | 10.2         |            |          |                 | 1:10 |
|               |              |            |          |                 |      |
|               | 6.8          |            |          |                 |      |
|               |              |            |          |                 |      |
|               | 10.0         |            |          |                 |      |
|               |              |            |          |                 |      |
|               | 6.0          |            |          |                 |      |
|               |              |            |          |                 |      |
|               | 5.0          |            |          |                 |      |
|               |              |            |          |                 |      |
| 0.0           | 55.0         | 16.5       | 0.0      |                 |      |

D.R. Curry  
 McKenzie  
 1 (McKenzie)  
 Top 1.8' good rest fractured.  
 core most all missing  
 core very good.  
 core very good.

PL



Hole No. 810 Top Elev. Date 4-9-42

Inspector Adolph Back Foreman Betz Crew No. 2 Page 7

| Time  |      | Hk.-Min. | Depth |      | Core Recov. |
|---|------|----------|-------|------|-------------|
| From  | To   |          | From  | To   |             |
| 8:00 AM   | 9:40 | 1-40     | 76.0  | 86.0 | 8.0         |
| This hole would not stand a water test so moved to 7-22 |      |          |       |      |             |
| 2:00 AM   | 2:20 | 0-20     | 0     | 8°   |             |

4-10-42 Gy McCowan

| Perc. Dr. ft. | Core Dr. ft. | Re-Dr. ft. | W.O. ft. | Time (Hr.-Min.)         |      |
|---------------|--------------|------------|----------|-------------------------|------|
|               |              |            |          | M.&S.U.                 | Last |
|               | 10.0         |            |          | Core recovered is good  |      |
|               |              |            |          | 8° Washed out 8° ft top |      |
| 0.0           | 10.0         | 0.0        | 8.0      | PL                      |      |



Hole No. 7:22. Top Elev. Date 4-9-42

| Time |    | Depth    |      | Core |        |
|------|----|----------|------|------|--------|
| From | To | Hr.-Min. | From | To   | Recov. |

|       |       |      |                |      |  |
|-------|-------|------|----------------|------|--|
| 9:40  | 10:40 | 1-00 | 3.0            |      |  |
| 10:40 |       |      | <del>2.5</del> | 45.0 |  |

|          |          |      |                    |      |  |
|----------|----------|------|--------------------|------|--|
| 4:00 PM  | 6:10 PM  | 2-10 | 45.0               | 80.0 |  |
| 6:10 PM  | 6:45 PM  | 0-35 | 80.0               | 85.0 |  |
| 6:45 PM  | 7:10 PM  | 0-25 | removing core 4.0  |      |  |
| 7:15 PM  | 8:00 PM  | 0-45 | 85.0               | 87.0 |  |
| 8:00 PM  | 8:30 PM  | 0-30 | Lunch              |      |  |
| 8:30 PM  | 9:00 PM  | 0-30 | removing core 1.25 |      |  |
| 9:00 PM  | 11:00 PM | 2-00 | 87.0               | 98.5 |  |
| 11:00 PM | 11:30 PM | 0-30 | removing core 7.5  |      |  |

4-10-42 Gy McCown.  
 11:30 PM 12:45 AM 1-15 98.5 103 3.5

Inspector Adolph Beck Foreman Batey Crew No. 2 Page 8

| Perc. Dr. ft. | Core Dr. ft. | Re-Dr. ft. | W.O. ft. | Time (Hr.-Min.) |      |
|---------------|--------------|------------|----------|-----------------|------|
|               |              |            |          | M.&S.U.         | Lost |

|  |  |      |        |  |  |
|--|--|------|--------|--|--|
|  |  |      | 1-00 → |  |  |
|  |  | 42.5 |        |  |  |

D.R. Curry Ian McKenzie 2 (summons)  
 35.0 ✓  
 5.0 ✓  
 good core one ft missing.  
 2.0 ✓  
 0-30  
 core very poor.  
 11.5 ✓  
 very poor core some very soft.

4.5 ✓ Core broken 1" to 8"

|     |      |      |     |  |    |
|-----|------|------|-----|--|----|
| 0.0 | 23.0 | 77.0 | 0.0 |  | pl |
|-----|------|------|-----|--|----|



Hole No. 6-23 Top Elev. Date 4-9-42

| Time |    | Depth   |         | Core Recov. |
|------|----|---------|---------|-------------|
| From | To | Hr.-Min | From To |             |

|          |          |      |                      |  |
|----------|----------|------|----------------------|--|
| 11:00 PM | 11:20 PM | 0-20 | moving $\phi$ Set up |  |
| 11:20 PM |          |      | 24.2                 |  |

4-10-42 Gy McCown

|          |          |      |      |      |      |
|----------|----------|------|------|------|------|
| 11:20 PM | 12:45 AM | 1-25 | 24.2 | 34.5 | 10.3 |
| 12:45 AM | 3:45 AM  | 3-00 | 34.5 | 44.6 | 10.1 |
| 3:45 AM  | 6:45 AM  | 3-00 | 44.6 | 54.8 | 10.2 |

Inspector D.R. Curry Foreman Jan McKenzie Crew No. 1 (McKenzie) Page 9

| Perc. Dr. ft. | Core Dr. ft. | Re-Dr. ft. | W.O. ft. | Time (Hr.-Min.) |      |
|---------------|--------------|------------|----------|-----------------|------|
|               |              |            |          | M.&S.U.         | Lost |

|  |      |  |  |  |                       |
|--|------|--|--|--|-----------------------|
|  |      |  |  |  | 0-20                  |
|  | 10.3 |  |  |  | Core broken 4" to 8"  |
|  | 10.1 |  |  |  | Core broken 4" to 35" |
|  | 10.2 |  |  |  | Core broken 4" to 36" |

0.0 30.6 0.0 0.0

Noted



H. Hole No. 8-22 Top Elev. \_\_\_\_\_ Date 4-9-42 Inspector J.R. Curry Foreman Achard Crew No. \_\_\_\_\_ Page 10

| Time       |            | Depth    |      | Core<br>Recov. | Perc.<br>Dr. ft. | Core<br>Dr. ft. | Re-Dr.<br>ft. | W.O.<br>ft. | Time (Hr.-Min.) |                      |
|------------|------------|----------|------|----------------|------------------|-----------------|---------------|-------------|-----------------|----------------------|
| From       | To         | Hr.-Min. | From |                |                  |                 |               |             | To              | M.&S.U.              |
| 10:30 P.M. | 11:00 P.M. | 0-30     | 0.0  | 100.0          |                  |                 |               | 100.0       |                 |                      |
|            |            | 4-10-42  | Gy   | McCown         |                  |                 |               |             |                 |                      |
|            |            |          | 0°   | 70°            |                  |                 |               |             |                 | water                |
| 1° AM      | 4-10       | 3-10     | 70°  | 90°            |                  |                 |               |             |                 | Reamed,              |
| 4-10       | 5-0        | -50      | 90°  | 100°           |                  |                 | 10°           |             |                 | Drilled grout,       |
| 5-00       | 7-0        | 2-00     | 100° | 108°           | 5.5              | 8°              |               |             |                 | Core broken 1" to 8" |
|            |            |          |      |                | 0.0              | 8.0             | 10.0          | 100.0       |                 |                      |

pl



Hole No. 9-0 Top Elev. Date 4-9-42 Inspector W.R. Curry Foreman Orchard Crew No. Page 11

| Time |    | Depth    |      | Core | Perc.   | Core    | Re-Dr. | W.O. | Time (Hr.-Min.) |      |
|------|----|----------|------|------|---------|---------|--------|------|-----------------|------|
| From | To | Hr.-Min. | From | To   | Dr. ft. | Dr. ft. | ft.    | ft.  | M&S.U.          | Lost |

11:00PM 11:30PM 0-30 0.0 5.0

This grout was too hard to wash out.

4-10-42 Coy. McLown.

7.0 8.0 1-0 2.0 8.0

water  
Drilling grout

0.0 0.0 6.0 5.0



| Hole No.              | Top Elev.             | Date     | Inspector  |        | Foreman      |         | Crew No.                     | Page 12 |                 |         |   |
|-----------------------|-----------------------|----------|--|--------|--------------|---------|------------------------------|---------|-----------------|---------|---|
| 7-23                  |                       | 4-11-42  | Edolph Beck  |        | Betzey       |         | 1                            |         |                 |         |   |
| Time                  |                       | Depth    |  | Core   | Perc.        | Core    | Re-Dr.                       | W.O.    | Time (Hr.-Min.) |         |   |
| From                  | To                    | Hr.-Min. | From   | To     | Recov.       | Dr. ft. | Dr. ft.                      | ft.     | ft.             | M.&S.U. | Lost  |
| 7:00 <sup>A.M.</sup>  | 10:00 <sup>A.M.</sup> | 3-00     | 103  | 113.6  | 10.2         |         | 10.6                         |         |                 |         |   |
| 10:00                 | 10:25                 | 0-25     | Remove core  |        |              |         |                              |         |                 |         |   |
| 10:25 <sup>A.M.</sup> | 12:05 PM              | 1-50     | 113.6  | 124.1  | 5.5          |         | 10.5                         |         |                 |         | Lost part of the core in pulling it out of the hole |
| 7-23                  | 441.4                 | 4-11-42  | D.P. Curry   |        | Dan McKenzie |         | 1-McKenzie                   |         |                 |         |   |
| 4:00 PM               | 4:10 PM               | 0-10     | 124.1  | 129.17 |              | 5.07    | Broken in very small pieces. |         |                 |         |   |
| 4:10 PM               | 4:30 PM               | 0-20     | removing core 4.0  |        |              |         |                              |         |                 |         |   |
| 4:30 PM               | moving to hole 7-0    |          |  |        |              |         |                              |         |                 |         |   |
| 9:00 PM               | 9:20 PM               | 0-20     | Made water test took 2.0 cu ft in 3 min at 150 lbs. pressure. Very tight hole as the threads on grout nipple probably leaked most of the 2.0 cu. ft. |        |              |         |                              |         |                 |         |   |
|                       |                       |          |  |        | 0.0          | 26.2    | 0.0                          | 0.0     |                 |         |   |



Hole No. 8-22 Top Elev. Date 4-11-42 Inspector Adalah Back Foreman Betzer Crew No. 2 Page 13

| Time   |        | Depth    |       | Core<br>Recov. | Perc.<br>Dr. ft. | Core<br>Dr. ft. | Re-Dr.<br>ft. | W.O.<br>ft. | Time (Hr.-Min.) |                        |
|--|--------|----------|-------|----------------|------------------|-----------------|---------------|-------------|-----------------|------------------------|
| From   | To     | Hr.-Min. | From  |                |                  |                 |               |             | To              | M.&S.U.                |
| 8:00 <sup>AM</sup>                             | 10:15  | 2-15     | 141.5 | 152.0          | 9.5              | 10.5            |               |             |                 | core recovered is good |
| 10:15  | 11:00  | 0-45     |       |                |                  | <del>11.0</del> |               |             |                 | core recovered is good |
| 11:00  | 1:00PM | 2-00     | 152.0 | 163.0          | 7.2              | <del>10.0</del> |               |             |                 |                        |
| 1:00PM   | 1:30PM |          |       |                |                  |                 |               |             |                 |                        |
| Remove core<br>hole completed<br>Moving to 9-0 |        |          |       |                |                  |                 |               |             |                 |                        |
|  |        |          |       |                | 0.0              | 21.5            | 0.0           | 0.0         |                 |                        |



Hole No. 9.0.0 Top Elev. Date 4-11-92 Inspector Adolph Back Foreman Betz Crew No. 2 Page 14

| Time |    | Depth    |      | Core | Perc.   | Core    | Re-Dr. | W.O. | Time (Hr.-Min) |      |
|------|----|----------|------|------|---------|---------|--------|------|----------------|------|
| From | To | Hr.-Min. | From | To   | Dr. ft. | Dr. ft. | ft     | ft.  | M.&S.U.        | Lost |

1:30 2:00 0-30

9-0 106.5 116.0 6.5  
 4:00PM 6:40PM 2-40 116.0 127.0  
 6:40PM 7:26PM 0-40 removing core 10.7  
 7:26PM 8:00PM 0-40 127.0  
 8:00PM 8:30PM 0-30 lunch  
 8:30PM 11:10PM 2-40 127.0 137.5  
 11:10PM 11:40PM 0-30 removing core 10.0  
 11:40PM Waiting on Bits

9.5  
 D.R. Curry McKenzie Z(simmons)  
 11.0  
 10.11 of this core was in one piece  
 10.15  
 Core all most all in one piece.

0.0 31.0 0.0 0.0



| Hole No. | Top Elev. | Date     | Depth | Core   |
|----------|-----------|----------|-------|--------|
| 7-0      |           | 4-11-42  |       |        |
| From     | To        | Hr.-Min. | From  | To     |
| Time     |           |          | Core  | Recov. |

4:30 PM 5:10 PM 0-40 moving & Set up.  
 5:10 PM 7:30 PM 2-20 0.0 23.6  
 7:30 PM 8:00 PM 0-30 23.6  
 8:00 PM 8:30 PM 0-30 lunch  
 8:30 PM 9:10 PM 0-40 23.6 29.5  
 9:10 PM 9:35 PM 0-25 removing core A.9  
 9:35 PM Waiting on Bits

| Inspector  |              | Foreman      |          | Crew No.           |      |
|--|--------------|--------------|----------|--------------------|------|
| D.R. Curry   |              | Jan McKenzie |          | 1-McKenzie Page 15 |      |
| Perc. Dr. ft.  | Core Dr. ft. | Re-Dr. ft.   | W.O. ft. | Time (Hr.-Min.)    |      |
|  |              |              |          | M. & S. U.         | Lost |
|  |              |              |          |                    | 0-40 |
|  |              | 23.6         |          |                    |      |
|  | 5.9          |              |          |                    | 0-30 |
| This core Broken from 2" to 18" all the Bits are dull. |              |              |          |                    |      |
| 0.0  | 5.9          | 23.6         | 0.0      |                    |      |



Hole No. 7+22 Top Elev. Date 4-12-42 Inspector McCown Foreman McKenzie Crew No. Page 16

| Time |    | Depth    |      | Core | Perc.   | Core    | Re-Dr. | W.O. | Time (Hr.-Min.) |      |
|------|----|----------|------|------|---------|---------|--------|------|-----------------|------|
| From | To | Hr.-Min. | From | To   | Dr. ft. | Dr. ft. | ft.    | ft.  | M.&S.U.         | Lost |

~~129.1 140~~

Data this shift obtained from Drillers. No Insp. on swing.

No record of time 129.2 140.0 10.5  
Hr 80

10.8 core 1 piece. broken accidentally after pulled.

4-13-42 Gyi McCown

|          |         |      |     |     |     |
|----------|---------|------|-----|-----|-----|
| 11:30 PM | 2-15 AM | 2-45 | 140 | 151 | 112 |
| 2-15 AM  | 6-00 AM | 3-45 | 151 | 162 | 110 |

11.0 ✓ core broken shattered for 2 1/2 ft balance 3 pieces 15 ft  
11.0 ✓ shatter to 80.

0.0 32.8 0.0 0.0



Hole No. 6723 Top Elev. \_\_\_\_\_ Date 4-12-42

Inspector McCown Foreman \_\_\_\_\_ Crew No. \_\_\_\_\_ Page 17

| Time |    | Depth    |      | Core | Perc.   | Core    | Re-Dr. | W.O. | Time (Hr.-Min.) |      |
|------|----|----------|------|------|---------|---------|--------|------|-----------------|------|
| From | To | Hr.-Min. | From | To   | Dr. ft. | Dr. ft. | ft.    | ft.  | M.&S.U.         | Lost |

Note: No inspection on data secured from Driller

Drilling for 4-12-42 - Sunday  
 Gy - Day & Swing

|      |      |      |
|------|------|------|
| 54.8 | 59.2 | 2.7  |
| 59.2 | 64.2 | 5.0  |
| 64.2 | 70.8 | 5.1  |
| 70.8 | 80.8 | 10.0 |
| 80.8 | 85.8 | 4.5  |
| 85.8 | 90.8 | 5.0  |
| 90.8 | 95.8 | 5.0  |

|      |                       |
|------|-----------------------|
| 4.4  | Broken 1" to 15"      |
| 5.0  | Broken 1" to 17"      |
| 6.6  | Broken 1" to 46"      |
| 10.0 | Broken 1" to 44"      |
| 5.0  | Broken 1" to 36"      |
| 5.0  | Broken 1" to 30"      |
| 5.0  | Broken Shatter to 24" |

0.0 41.0 0.0 0.0



Hole No. 7100 Top Elev. \_\_\_\_\_ Date 4-12-42 Inspector McCown Foreman \_\_\_\_\_ Crew No. \_\_\_\_\_ Page 18

| Time |    | Depth    |      | Core | Perc.   | Core    | Re-Dr. | W.O. | Time (Hr.-Min) |      |
|------|----|----------|------|------|---------|---------|--------|------|----------------|------|
| From | To | Hr.-Min. | From | To   | Dr. ft. | Dr. ft. | ft.    | ft.  | M. & S.U.      | Last |

Note No. Inspector on Duty  
Drillers, (Tomlinson)

|      |      |      |
|------|------|------|
| 29.5 | 39.5 | 10.0 |
| 39.5 | 44.7 | 4.2  |
| 44.7 | 54.2 | 7.9  |
| 54.2 | 59.5 | 2.5  |

Sunday Data obtained from

|      |                  |
|------|------------------|
| 10.0 | Broken 1" to 6"  |
| 5.2  | Broken 1" to 12" |
| 9.5  | Broken 1" to 10" |
| 5.3  | Shatter to 5"    |

4-13-42 Gy water tested

held 3 wgt only. at 140 lbs.

7<sup>00</sup> AM

59.5

Drill in operation

0.0 30.0 0.0 0.0



Hole No. 8400 Top Elev. \_\_\_\_\_ Date 4-12-42 Inspector McGowan Foreman \_\_\_\_\_ Crew No. \_\_\_\_\_ Page 19

| Time |    | Depth    |      | Core | Para  | Core  | ReDrill | Wi O | Time |         |
|------|----|----------|------|------|-------|-------|---------|------|------|---------|
| From | To | Hr.-Min. | From | To   | Drift | Drift | ft      | ft.  | M&SU | Hrs Min |
|      |    |          |      |      |       |       |         |      |      | Lost    |

Data obtained from

|       |       |      |
|-------|-------|------|
| 117.8 | 122.0 | 3.0  |
| 122.0 | 141   | 17.5 |
| 141   | 148   | 4.0  |
| 148   | 160   | 11.0 |

Drillers \_\_\_\_\_ No Insp on Duty

4.2 Core Broken 1" to 18"  
 19.0 Core Broken 1" to 48"  
~~11.0 to 18"~~  
 7.0 Core Broken 1" to 18"  
 12.0 Core Broken 1" to 28"

0.0 42.2 0.0 0.0



| Hole No | Top Elev | Date    |
|---------|----------|---------|
| 9400    |          | 4-12-42 |
| Time    | Depth    | Core    |
| From    | To       | Rec     |

| Inspector |       | Foreman  |     | Crew No |         |
|-----------|-------|----------|-----|---------|---------|
| McLown    |       |          |     | Page 20 |         |
| Per       | Core  | Re-Drill | W.O | Time    | Hrs Min |
| Drift     | Drift | ft       | ft  | M&SU    | Lost    |

Data obtained from

|        |       |               |
|--------|-------|---------------|
| 137.5' | 148.0 | 10.5          |
| 148.0  | 153.0 | 30            |
| 153.0  | 163.5 | <del>30</del> |

Driller Hogate.

|      |             |         |     |
|------|-------------|---------|-----|
| 10.5 | Core Broken | 1" to   | 9.0 |
| 5.0  | Core Broken | 1" to   | 16" |
| 10.5 | Core left   | in hole |     |

|     |      |     |     |
|-----|------|-----|-----|
| 0.0 | 26.0 | 0.0 | 0.0 |
|-----|------|-----|-----|



Hole No 6+25  
 Top Elev  
 Date 4-13-42

Inspector McCown  
 Foreman  
 Crew No  
 Page 21

Time  
 From To Hr-Min  
 Depth From To  
 Core Recol

Perc Drift  
 Core Drift  
 ReDrill ft  
 W.O ft  
 Time M&SU  
 Hr-Min Lost

94 shift

|          |         |      |      |       |     |
|----------|---------|------|------|-------|-----|
| 11.30 PM | 1.30 AM | 2-0  | 82.5 | 87.5  | 5.0 |
| 1.30 AM  | 3-15 AM | 1-45 | 87.5 | 92.6  | 5.1 |
| 3-15 AM  | 6-00 AM | 2-45 | 92.6 | 98.5  | 5.2 |
| 6-00 AM  | 8-00 AM | 2-00 | 98.5 | 103.7 | 5.2 |

|     |   |                |
|-----|---|----------------|
| 5.0 | Core Broken   | 1" to 37"      |
| 5.1 | Core Broken   | Shatter to 30" |
| 5.9 | Core Broken   | 10" to 30"     |
| 5.2 | Drill in operation<br>Core Broken 4' Shattered 1 piece 10"<br>Core in hole 9 end shift. |                |

0.0 21.2 0.0 0.0



| Hole No | Top Elev. | Date    |
|---------|-----------|---------|
| 16-25   |           | 4-15-48 |

| Time           | Depth       | Core  |
|----------------|-------------|-------|
| From To Hr-Min | From To     | Recor |
| 8:00 A 9:45 A  | 0 55.8 58.8 | 0     |

Lost WATER AND CORE AT 58.8 - Moved To 17-25.

|                 |          |
|-----------------|----------|
| 16-25           | 4-15-48  |
| 8-00 PM 8-30 PM | 0.0 58.8 |

| Inspector | Foreman | Crew No. | Page |
|-----------|---------|----------|------|
| Allen     | Bitzer  |          | 22   |

| Perc.  | Core   | Re Drill | W.O. | Time (Hr-Min) |      |
|--------|--------|----------|------|---------------|------|
| Dr.-ft | Dr.-ft | ft       | ft   | M. & S.       | Lost |
|        | 3.0    | 0        | 0    | 0             | 0    |

|            |        |      |
|------------|--------|------|
| D.R. Curry | Achard | 58.8 |
|------------|--------|------|

0.0 3.0 0.0 58.8

PL



| Hole No                | Top Elev.      | Date    | Inspector     | Foreman | Crew No | Page       |          |                 |                |             |      |
|------------------------|----------------|---------|---------------|---------|---------|------------|----------|-----------------|----------------|-------------|------|
| 17-25                  | 552.9          | 4-15-42 | Allen         |         |         | 23         |          |                 |                |             |      |
| Time                   |                | Depth   |               | Core    | Perc    | Core       | Re Drill | W. O.           | Time (Hr.-Min) |             |      |
| From                   | To             | Hr.-Min | From          | To      | Recor   | Dr-ft      | Dr-ft.   | ft.             | ft             | M.S.U.      | Cost |
| 9:45 A                 | 10:15 A        | 0-30    |               |         |         |            |          |                 |                | 0.30        |      |
| DRILLING - OUT-GROWTH. |                |         |               |         |         |            |          |                 |                |             |      |
| 10:15 A                | 3:25 P         | 5-10    | 0             | 26.5    |         |            |          | 26.5            | 0              | 0           | 0    |
| 3:25 P                 |                |         |               |         |         |            |          |                 |                |             |      |
| 17-25                  |                |         | 4-15-42       |         |         | D.R. Curry |          | Dan McKenzie    |                | 1 McKenzie) |      |
| 4:00 PM                | 5:30 PM        | 1-30    | 26.5          | 35.0    |         |            |          | 8.5             |                |             |      |
| 5:30 PM                | 5:50 PM        | 0-20    | removing core |         | 2.7     |            |          | Very poor core  |                |             |      |
| 5:50 PM                | 7:00 PM        | 1-10    | 35.6          | 44.0    |         |            |          | 9.0             |                |             |      |
| 7:10 PM                | 7:40 PM        | 0-30    | removing core |         | 2.0     |            |          | Very poor core. |                |             |      |
| 7:40 PM                | 8:00 PM        | 0-20    | 44.0          |         |         |            |          |                 |                |             |      |
| 8:00 PM                | 8:30 PM        | 0-30    | lunch         |         |         |            |          |                 |                |             | 0-30 |
| 8:30 PM                | 9:00 PM        | 0-30    | 44.0          | 48.5    |         |            |          | 4.5             |                |             |      |
| 9:00 PM                | 9:15 PM        | 0-15    | removing core |         | 1.5     |            |          | Very poor core  |                |             |      |
| 9:15 PM                | moving to hole |         | 17-0          |         |         |            |          |                 |                |             |      |
|                        |                |         |               |         |         | 0.0        | 22.0     | 26.5            | 0.0            | PL          |      |



62-58

14-25

Date  
4-15

|        |        |      |                 |        |   |
|--------|--------|------|-----------------|--------|---|
| 8:00A  | 10:30A | 2-30 | 25 <sup>0</sup> | 0:47.0 | 0 |
| 10:30A | 1:30P  | 3.0  | 47.0            | 62.8   | 0 |

24

| Perc.<br>Dr. | Card<br>Dr. | Re-Dr.               | W.O. |   |   |
|--------------|-------------|----------------------|------|---|---|
|              | 0           | 22.0                 | 0    | 0 | 0 |
|              | 15.8 ✓      | <del>7.80</del><br>0 | 0    | 0 | 0 |
| 0.0          | 15.8        | 22.0                 | 0.0  |   |   |

pl



|         |          |         |           |         |         |      |
|---------|----------|---------|-----------|---------|---------|------|
| Hole No | Top Elev | Date    | Inspector | Foreman | Crew No | Page |
| 13-25   |          | 4-15-42 |           |         |         | 25   |

| Time |    | Depth |    | Core  |
|------|----|-------|----|-------|
| From | To | From  | To | Recel |

|                               |        |      |      |      |     |
|-------------------------------|--------|------|------|------|-----|
| 1:30 P                        | 2:15 P | 0-45 | 0    | 0    | 0   |
| Moving from No-14-25 to 13-25 |        |      |      |      |     |
| 2:15 P                        | 3:30 P | 1-15 | 76.6 | 84.0 | 5.0 |
| 3:30 P                        | 4:00 P |      | 84.0 | 89.0 |     |

4-15-42

|         |                        |      |               |      |      |
|---------|------------------------|------|---------------|------|------|
| 4:00 PM | 5:40 PM                | 1-40 | 89.0          | 94.0 |      |
| 5:40 PM | 6:10                   | 6-30 | removing core |      | 6.75 |
| 6:10    | moving to hole (10-13) |      | 106.5         |      |      |

| Perc. Dr. | Core Dr. | Re-Dr. | W.O. |
|-----------|----------|--------|------|
|-----------|----------|--------|------|

|   |                  |   |   |
|---|------------------|---|---|
| 0 | 0                | 0 | 0 |
|   | 7.6 <sup>4</sup> | 0 | 0 |
|   | 5.0 ✓            |   |   |

D. R. Curry      McKenzie 2 (simmons)  
5.0 ✓

Core Broken in very short pieces south of axis. Sloping hole.

0.0      17.4      0.0      0.0

de



| Hole No | Top Elev. | Date.    |         |
|---------|-----------|----------|---------|
| 17-0    |           | 4-15-42  |         |
| Time    |           | Depth    | Core    |
| From    | To        | Hrs-Min. | From To |
|         |           | From To  | Recor   |

|          |          |      |               |      |
|----------|----------|------|---------------|------|
|          |          | 0    | 1.5           |      |
| 9-15 PM  | 10:00 PM | 0-45 |               |      |
| 10-00 PM | 11:30 PM | 1-30 | 1.5           | 10.0 |
| 11:30 PM | 11:45 PM | 0-15 | removing core | 3.4  |

4-16-42 Gy McCown

|          |          |      |       |       |      |
|----------|----------|------|-------|-------|------|
| 12 00    | 12 50 AM | 50   | 10.0  | 12.5' | 1.2  |
| 12 50 AM | 1 25 AM  | 35   | 12.5' | 15.5' | 2.0  |
| 1 25 AM  | 3 30 AM  | 2 05 | 15.5' | 22.5' | 2.5' |
| 3 30 AM  | 4 45 AM  | 1 15 | 22.5' | 26.5' | 2.0  |

| Inspector  | Foreman      | Crew No      | Page |
|------------|--------------|--------------|------|
| D.R. Curry | Ian McKenzie | 1 (McKenzie) | 26   |

| Perf  | Core   | ReDrill | W. O. | Time (Hr-Min)    |
|-------|--------|---------|-------|------------------|
| Dr-ft | Dr-ft. |         | ft.   | M. & S. U. Lost. |

1.5 (Mar. 25, 1942 - Curry)

8.5 ✓

Core <sup>m</sup> very short pieces

2.5 ✓

Broken 1" to 4"

3.0 ✓

" 1" to 8"

7.0 ✓

" 1" to 8"

4.0 ✓

" 1" to 3"

1.5

25.0

0.0

0.0

Notes



| Hole No | Top Elev.   | Date    | Depth |    | Core   |
|---------|-------------|---------|-------|----|--------|
| From    | To          | Hr-Min. | From  | To | Recod. |
| 10-13   | offset.     | A-15-42 |       |    |        |
| 106.5   | 3' of axis. |         |       |    |        |

|          |          |      |                  |      |  |
|----------|----------|------|------------------|------|--|
| 6-10 PM  | 8:00 PM  | 1-50 | Moving & Set up. |      |  |
| 8:00 PM  | 8:30 PM  | 0-30 | Lunch            |      |  |
| 8:30 PM  | 9:15 PM  | 0-45 | Moving & Set up  |      |  |
| 9-15 PM  | 10:10 PM | 0-55 | 12.0             | 22.0 |  |
| 10:10 PM | 10:20 PM | 0-10 | removing core    | 1.2  |  |
| 10:20 PM | 10:50 PM | 0-30 | 22.0             | 32.0 |  |
| 10:50 PM | 11:05 PM | 0-15 | removing core    | 2.0  |  |
| 11:05 PM | 12:00 M. | 0-55 | 32.0             | 43.0 |  |

12:00 M removing core

4-16-42 GY McCown

|         |         |      |     |     |      |
|---------|---------|------|-----|-----|------|
| 12:00   | 1:00 AM | 1-00 | 43° | 46° | 1.5  |
| 1:00 AM | 3:15 AM | 2-15 | 46° | 56° | None |
| 3:15 AM | 4:00 AM | 45   | 56° | 58° | 1°   |
| 4:00 AM | 6:10 AM | 2-10 | 58° | 65° | 0.5  |
| 6:10    | 7:00 AM | 50   | 65° | 66° | 1.0  |

| Inspector     | Foreman  | Crew No.     | Page  |
|---------------|----------|--------------|-------|
| J. R. Curry   | McKenzie | 2 (Simmons)  | 27    |
| Perc          | Core     | ReDrill      | W. O. |
| Dr-ft.        | Dr-ft.   | ft.          | ft.   |
| Time (Hr-Min) |          | M.P.S. Lost. |       |

Notes The depth from 1-50 surface of concrete to start of drilling was 12.6 ft. There are 13' of 2.5 in. pipe at present on this hole.

This drilled soft almost all core washed out with water.

Core nearly all washed out very soft.

|      |        |          |
|------|--------|----------|
| 3.0  | Broken | 1" to 2" |
| 10.0 |        |          |
| 2.0  | Broken | 1" - 5"  |
| 7.0  | Broken | 1" - 3"  |
| 1.0  | Broken | 1" - 5"  |

Blue Mud Discharged from Drill

0.0 54.0 0.0 0.0

Noted



| Hole No | Top Elev | Date    | Gy   |
|---------|----------|---------|------|
| Time    | Depth    | Core    |      |
| From To | Hr Min   | From To | Rec. |
| 16+25   |          | 4-16-42 |      |

| Inspector  | Foreman | Crew No | Page        |
|------------|---------|---------|-------------|
| Perf. Core | ReDr.   | W0      | Time Hr Min |
| Drift      | Drift   | ft      | ft.         |
|            |         |         | M&SU Lost,  |
| McLown     |         |         | 28          |

5:20 AM 6:50 AM 1 30 45° 58° P.B.M.

Struck hard object  
destroyed Diamond Bit.

13.0° Drill Grout,  
on rock

0.0 0.0 13.0 0.0 ✓



| Hole No | Top Elev | Date    | Inspector | Foreman | Crew No | Page    |             |
|---------|----------|---------|-----------|---------|---------|---------|-------------|
| 14125   |          | 4-16-42 | Gy        | McGowan |         | 29.     |             |
| Time    | Depth    | Core    | Para      | Core    | ReDrn   | Up.     | Time Hr Min |
| From To | Hrs Min  | from to | Rec       | Drill   | Drift   | ft. ft. | M&SD Lost.  |

5.0 A.M.

0 6.0

6.0 Washed out grout.

0.0 0.0 0.0 6.0 ✓



| Hole No | Top Elev | Date    |
|---------|----------|---------|
| 13-25   |          | 4-17-42 |

| Inspector  | Foreman  | Crew No     | Page |
|------------|----------|-------------|------|
| J.R. Curry | McKenzie | 2 (Simmons) | 30   |

| Time |    | Depth   |         | Core   |
|------|----|---------|---------|--------|
| From | To | Hr-Min. | From To | Recor. |

| Perf. Dr-ft. | Core Dr-ft | Re Drill ft. | W.O. ft. | Time (Hr-min) | M. & S. U. Lost. |
|--------------|------------|--------------|----------|---------------|------------------|
|--------------|------------|--------------|----------|---------------|------------------|

|           |            |       |                 |       |
|-----------|------------|-------|-----------------|-------|
| 4:00 P.M. | 4:45 P.M.  | 0-45  | Moving & Set up |       |
|           |            | 94.0  | 105.0           |       |
|           |            |       | removing core   | 10.0  |
|           |            | 105.0 | 116.0           |       |
|           |            |       | removing core   | 7.0   |
| 9:40 P.M. | 10:30 P.M. | 0-50  | 116.0           | 121.0 |
| 10:30     |            |       | Broke Feed nut  |       |

|  |  |      |                                 |      |                     |
|--|--|------|---------------------------------|------|---------------------|
|  |  |      |                                 | 0-45 |                     |
|  |  | 11.0 |                                 |      |                     |
|  |  |      | good core.                      |      |                     |
|  |  | 11.0 |                                 |      |                     |
|  |  |      | Some of this core Broken short. |      |                     |
|  |  | 5.0  |                                 |      |                     |
|  |  |      | m machine.                      | 5.0  | core still in hole. |

|            |           |           |                            |
|------------|-----------|-----------|----------------------------|
| 4-18-42    |           | Gy McCown |                            |
| 12:30 P.M. | 1:30 A.M. | 1-0       | 116.0 121.0 A <sup>o</sup> |
| 1:30 A.M.  | 6:00 A.M. | 4-30      | 121.0 127.0                |

|     |                     |         |
|-----|---------------------|---------|
| 5.0 | Pulling Core Broken | 1'-34"  |
| 6.0 | Broken              | 1" - 4" |

0.0 33.0 0.0 0.0

pl



Hole No 16+25 Top Elev. 4-17-42 Swing

Inspector Curry, Foreman Crew No Page 31

| Time     |          | Depth   |               | Core   |
|----------|----------|---------|---------------|--------|
| From     | To       | Hr-Min. | From To       | Recor. |
| 4:00 PM  | 8:00 PM  | 4-00    | 81.5          |        |
| 8:00 PM  | 8:30 PM  | 0-30    | Lunch         |        |
| 8:30 PM  | 10:05 PM | 1-35    | 81.5 86.5     |        |
| 10:05 PM | 10:40 PM | 0-35    | removing core | 5.5    |
| 10:40    |          |         | 86.5          |        |

| Perc  | Core  | ReDrill | W. O | Time (Hr-Min) |       |
|-------|-------|---------|------|---------------|-------|
| Dr-ft | Dr-ft | ft      | ft.  | M.S.U.        | Lost. |
|       | 5.0   |         |      |               | 0-30  |
|       | 9.5   |         |      |               |       |

good core. Either this hole was not 81.5 Deep or else core remained in hole.

Broken 1" to 5"

4-18-42 Gy McGown  
 10:40 PM 12:45 AM 2 05 86.5 96.0 30  
 This core Drilled on Swing pulled on Gy.

0.0 14.5 0.0 0.0  
 PL



| Hole No | Top Elev         | Date    | Gr. |
|---------|------------------|---------|-----|
| 17+00   |                  | 4-18-42 | Gr. |
| Time    | Depth            | Core    |     |
| From To | Hrs Min From To. | Rec.    |     |

|          |         |      |      |       |     |
|----------|---------|------|------|-------|-----|
| 12 45 AM | 3:15 AM | 2 30 | 3.0  | 26.5' |     |
| 3 15 AM  | 4:00 AM | 0-45 | 26.5 | 29.3  | 1.3 |
| 4 30 AM  | 5:45 AM | 1-15 | 29.3 | 32.5  | 3.0 |
| 5 45 AM  | 6:20 AM | 0-35 | 32.5 | 33.5  | 1.0 |
| 6 20 AM  | 7:20 AM | 1-00 | 33.5 | 37.5  | 3.7 |
| 7 20 AM  | 8:00 AM | -40  | 37.5 | 39.5  |     |

| Inspector | Foreman   | Crew No | Page  |
|-----------|-----------|---------|-------|
| McLown    | Tomlinson |         | 32    |
| Perc      | Core      | ReDrill | W.O   |
| Drift     | Drift     | ft      | ft    |
| Time      | Hrs       | Min     | Lost. |
| M&SU      |           |         |       |

|       |                             |
|-------|-----------------------------|
| 23.5' | Drill Grouf.                |
| 2.8   | Broken 1" to 5"             |
| 3.2   | Broken 1" to 3"             |
| 1.0   | Broken 1" to 6"             |
| 4.0   | Broken 1" to 6"             |
| 2.0   | Core not pulled this Shift. |

0.0 13.0 23.5 0.0

Noted



| Hole No | Top Elev | Date    | By  |
|---------|----------|---------|-----|
| 14100   |          | 4-18-42 | Gy  |
| Time    | Depth    | Core    |     |
| From To | Hrs Min  | From to | Rec |

|      |      |      |     |     |     |
|------|------|------|-----|-----|-----|
| 6:0  | 7:15 | 1-05 | 25° | 35° | 8:5 |
| 7:15 | 8:00 | 0-45 | 35° | 40° |     |

| Inspector | Foreman | Crew No | Page      |
|-----------|---------|---------|-----------|
| McCown    | Hogate  |         | 33        |
| Perc Core | ReDrill | W.O     | Time      |
| Drift     | Drift   | ft      | Hrs Min   |
|           |         |         | M&SU Lost |

10.0  
~~9.0~~  
 5.0 ✓

Broken 1" to 12"  
 Core not pulled this Shift,

0.0 15.0 0.0 0.0

Noted



Hole No  
16-0

April 14, 1942

DEPTH  
From To  
0 2.0  
2.0 25.0

Inspector

Curry

Foreman

McKenzie

page 3A

Perc.  
Dr.

Core  
Dr.

Re-Dr.

W.O.

2.0

23.0

2.0

23.0

0.0

0.0



17-25-

~~18-25-~~

2:00 A

2-0

61.0

69.0

Core  
Rec.

6-00 A

8:00 A

2-0

61.0

69.0

8.0

Allen

Betzer-

~~8.0~~

0.0 0.0 0.0 0.0



16-25

|        |        |      |        |       |     |
|--------|--------|------|--------|-------|-----|
| 9:15 A | 1:30 P | 4-15 | 96.0 ✓ | 107.0 | 2.0 |
|--------|--------|------|--------|-------|-----|

|        |        |      |       |       |     |
|--------|--------|------|-------|-------|-----|
| 1:30 P | 2:45 P | 1-15 | 107.0 | 112.0 | 4.6 |
|--------|--------|------|-------|-------|-----|

FINAL ↓

Allen

|      |
|------|
| Core |
| Dr.  |
| 11 ✓ |

Biz Ter.

5 ✓

16.0

PL



13-25

9:00 A 3:30 P 6-30 127.0 147.0 17.8

FIN#4 - DEPTH

Core  
Dry

20.0

37

20.0

RL



Hole # 14-0  
Top Elev  
Date 4-20-42

| Time           |         | Hr. min | Depth       |      | Core Recovered |
|----------------|---------|---------|-------------|------|----------------|
| From           | To      |         | From        | To   |                |
| 4:50 PM        | 5:00 PM | 1-00    | 43          | 51   | 7.9            |
| 5:00 PM        | 5:15 PM | 0-15    | Remove core |      |                |
| 5:15 PM        | 6:30 PM | 1-15    | 51          | 59   | 8.0            |
| 6:30 PM        | 6:50 PM | 0-20    | Remove core |      |                |
| 6:50 PM        | 8:00    | 1-10    | 59          | 69.5 | 9.9            |
| Moved to 14-25 |         |         |             |      |                |

Inspector Adolph Bock  
Foreman  
Crew # 38  
1

| Perc. Dr. ft | Core Dr. ft | Redrill ft | W.O. ft | Time M+Su | Hr. Min Lost |
|--------------|-------------|------------|---------|-----------|--------------|
|              | 8.0         |            |         |           |              |
|              | 8.0         |            |         |           |              |
|              | 10.5        |            |         |           |              |

good core

good core

good core

0.0 26.5 0.0 0.0

RF



Hole # 14-25 Top Elev Date 4-20-42

Time Depth Core  
From to Hr. min From to Recov.

8:00 PM 9:00 PM 1-00  
9:00 PM 9:30 0-30 started to  
9:30 12:00 Repairing

Inspector Adolph Bock Foreman Crew # 39  
1

Perc Core Redvill W.O Time Hr. Min.  
Dr. ft Dr. ft ft ft M+S.U Lost

1-00  
pull out and broke  
hoist  
2-30

0.0 0.0 0.0 0.0 ✓



| Hole # | Top Elev |      | Date  |      |       |
|--------|----------|------|-------|------|-------|
| 15-25  |          |      |       |      |       |
|        | Time     |      | Depth |      | Core  |
|        | From     | To   | From  | To   | Recov |
|        | 4:00 PM  | 8:00 | 0     | 25.7 |       |
|        | 8:00 PM  | 8:30 | 25.7  | 29   | 1.3   |
|        | 8:30 PM  | 9:30 | 29.0  | 32.0 | 1.7   |
|        |          |      | 32.0  | 34.0 | 2.0   |
|        | 12:00 AM |      | 34.0  | 37.5 | 3.0   |

|          |         |      |                     |       |      |
|----------|---------|------|---------------------|-------|------|
| 15-25    | 540.0   |      | 4-21-42             |       |      |
| 12:00 AM | 1:00 AM | 1-00 | Did not run for     |       |      |
| 1:00 AM  | 2:15 AM | 1-15 | 37.5                | 42.0  |      |
| 2:15 AM  | 2:35 AM | 0-20 | removing core       |       | 2.4  |
| 2:35 AM  | 3:35 AM | 1-00 | 42.0                | 47.67 |      |
| 3:35 AM  | 4:00 AM | 0-25 | removing core       |       | 4.9  |
| 4:00 AM  | 4:30 AM | 0-30 | lunch               |       |      |
| 4:30 AM  | 5:10 AM | 0-40 | 47.67               | 52.25 |      |
| 5:10 AM  | 5:20 AM | 0-10 | removing core       |       | 1.67 |
| 5:20 AM  |         |      | Moving to hole 16-0 |       |      |
|          |         |      | see page 43.        |       |      |

| Inspector       |         |         | Foreman | Crew #                         |
|-----------------|---------|---------|---------|--------------------------------|
|                 |         |         |         | 40                             |
| Perc            | Core    | Redrill | W.O.    | Time                           |
| Dr. ft.         | Dr. ft. | ft.     | ft.     | Hr. Min.                       |
|                 |         |         |         | MTS.U. Lost.                   |
|                 |         | 25.7    |         |                                |
|                 | 3.3     |         |         | core recovered                 |
|                 | 3.0     |         |         | is good                        |
|                 | 2.0     |         |         |                                |
|                 | 3.5     |         |         |                                |
|                 |         |         |         |                                |
| D.P. Curry      |         |         | Hay     | 1 (Hay)                        |
| lack of lights. |         |         |         | 1-00                           |
| 4.5             |         |         |         |                                |
|                 |         |         |         |                                |
|                 |         |         |         | Core broken in short pieces.   |
|                 | 5.67    |         |         |                                |
|                 |         |         |         | good core.                     |
|                 |         |         |         |                                |
|                 |         |         |         |                                |
|                 |         |         |         |                                |
|                 | 4.58    |         |         | 0-30                           |
|                 |         |         |         | Hit soft spot did not make     |
|                 |         |         |         | core. Core recovered was good. |
|                 |         |         |         |                                |
|                 |         |         |         |                                |
|                 |         |         |         |                                |
|                 |         |         |         |                                |
|                 |         |         |         |                                |
|                 |         |         |         |                                |
| 0.0             | 26.6    | 25.7    | 0.0     | KL                             |



Hole #  
17-0

Top Elev

Date  
4-20-42

Inspector  
Adolph Beck

Foreman  
Richard

Crew #  
41

6:50 PM 6:30 0-30 0 85.0

W. 0

41

85

0.0

0.0

0.0

85.0



Hole #  
17-25

Top Elev

Date  
4-20-42

Inspector  
Adolph Beck

Foreman  
Richard

A2

6:30 7:00 0-30 0 69

W. O  
ft

69

0.0 0.0 0.0 69.0



Hole No. 16-0 Top Elev. ----- Date 4-21-42

Inspector D.R. Curry Foreman Hay Crew No. Hay (1) Page 43

| Time |    | Depth   |         | Core  |
|------|----|---------|---------|-------|
| From | To | Hr-Min. | From To | Recov |

| Perc. | Core  | ReDrill | W. O. | Time (Hr-Min) |       |
|-------|-------|---------|-------|---------------|-------|
| Dr-ft | Dr-ft | ft.     | ft.   | TRSU          | Lost. |

|         |         |      |                    |  |
|---------|---------|------|--------------------|--|
| 5:20 AM | 5:40 AM | 0-20 | Making & Set up    |  |
| 5:40 AM | 6:35 AM | 0-55 | 25.8 35.17         |  |
| 6:35 AM | 7:00 AM | 0-25 | removing core 2.25 |  |

|  |                                    |  |  |      |  |
|--|------------------------------------|--|--|------|--|
|  |                                    |  |  | 0-20 |  |
|  | 10.2                               |  |  |      |  |
|  | 9.47                               |  |  |      |  |
|  | Core shows open seams and          |  |  |      |  |
|  | Core recov. was broken very short. |  |  |      |  |

0.0    10.2    0.0    0.0

RL



15-0

V-29-42

8:00 A

11:00 A

3-0

0.0

2.0

~~3.8~~

17.0

15

Stopped drilling AT 11:20 A - No Bits.

Page  
44

Fhhen

Bitzet.

Perc.  
Dr.  
2.0

Core Dr

(Mar. 25, 1942 - Curry.)

~~17.0~~

15.0

2.0

15.0

0.0

0.0

Noted



17-25

4-02-42

ALLEN

BITZER.

8:30 11<sup>00</sup> H 2-30 95.0 106.0 3.5

Core  
Dr  
11.0

Stop drinking - At 11:20 - No Bites.

11.0

PL



8-34-

4-22-42

9:30 A 1:30 P 4-0 15.0 25.6 10.0

-FINAL- To be grouted -

Final depth of hole below rock  
Surface 25.6'

Allen

Bitzer

Core  
Dr.  
~~10.0~~  
10.6

Page  
46

10.6

VR



Hole No

Top Elev.

Date

Inspector

Foreman

Crew No Page  
47

17-0

4/22/42

Allen

BITZER

Time

Depth

Core

Perc

Core

ReDrill

W.O.

Time (Hr-min)

From To

Hr-Min.

From To

Recor

Dr-ft

Dr-ft.

ft.

ft

M.S.U.

Lost.

85.0

17-0

A-22-42

D.R. Curry

Hogate

2 (Tomilson)

4:00 PM

85.0 93 3.0

8.0 ✓

93.0 96.5 3.5

3.5 ✓

9:20 PM

96.5 102.7

6.2 ✓

9:20 PM 9:50 PM 0-30 removing core 6.0

good core

9:50 PM 10:30 PM 0-40 102.7 106.8

4.1

10:30 PM 11:05 PM 0-35 removing core 3.0

good core

11:05 PM 11:40 PM 0-35 106.8 109.3

2.5

11:40 PM 12:00 AM 0-20 removing core None

Core was lost in hole

0.0

24.3

0.0

0.0

pl



Hole No Top Elev.

8-11 443.0

Date

Inspector Foreman

Crew No Page  
48

Time

Depth

Core

Perc.

Core

ReDrill

W. O.

Time (Hr-Min)

From To

Hr-Min

From To

Recov.

Dr-ft

Dr-ft

ft.

ft.

M.S.U.

Lost.

1:30 PM

0.0

8-11<sup>6</sup>

4-22-42

D.P. Curry

Hogate

1 (Hogate)

4:00 PM

12.5\* 18.0 5.0

5.5 ✓

18.0 23.0 5.0

5.0 ✓

23.0 25.0 1.8

2.0 ✓

9:00 PM

25.0 28.0

3.0 ✓

9:00 PM 9:20 PM 0-20 removing core 3.0

5.0 ✓

9:20 PM 10:10 PM 0-50 28.0 33.0

10:10 PM 10:30 PM 0-20 removing Core 3.75

5.0 ✓

10:30 PM 11:40 PM 1-10 33.0 38.0

11:40 PM 12:00 PM 0-20 removing Core 4.5

\* 12.5 is Elev 455.5 ✓

Notes - on 4-22-42

15.0' marked to top of

W/S

0.0 25.5 0.0 0.0

PL



| Hole No | Top Elev. | Date    | Depth   | Core   |
|---------|-----------|---------|---------|--------|
| From    | To        | Hr-Min. | From To | Recor. |

|          |          |      |               |      |
|----------|----------|------|---------------|------|
| 15-0     |          |      | 4-22-42       |      |
| 4:00 PM  |          |      | 17.0 21.0     | 3.5  |
|          |          |      | 21.0 25.5     | 4.0  |
|          |          |      | 25.5 31.0     | 3.0  |
|          |          |      | 31.0 36.0     | 5.0  |
| 9:15 PM  | 11:15 PM | 2-00 | 36.0 49.5     |      |
| 11:15 PM | 12: M    | 0-45 | removing core | 5.75 |

Notes This hole was losing all the water and it reappeared at 15' west and 15' south of axis. Come out of an open crack. After discontinuing drilling this crack is still running a good stream of water.

| Inspector | Foreman | Crew No | Page  |               |               |
|-----------|---------|---------|-------|---------------|---------------|
| Perc      | Core    | ReDrill | W. O. | Time (Hr-min) | M. & S. Lost. |
| Dr-ft.    | Dr-ft   | ft.     | ft.   |               |               |

0.0 32.5 0.0 0.0

Noted

Core Broken in very short pieces.



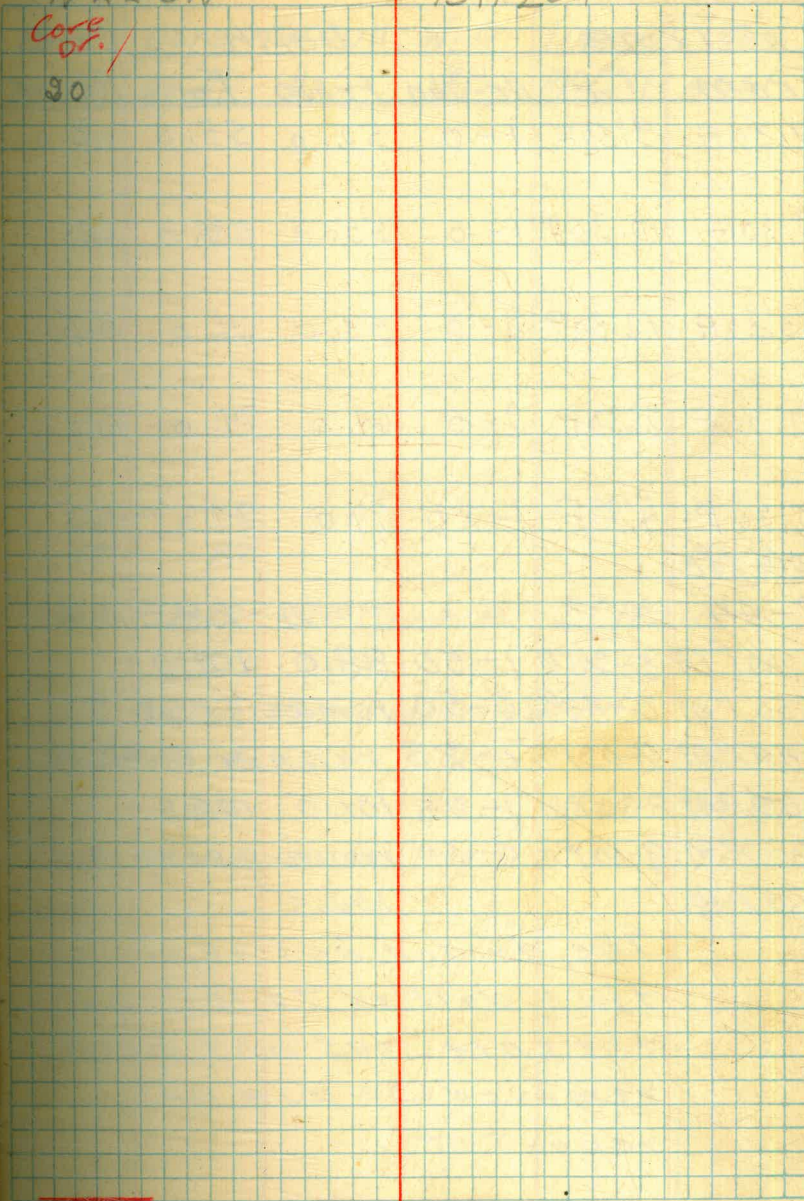
15- 25-

8:30 A 3:00 P 6-30 94.0 114.0 11.0

FINAL-DEPTH-

Allen  
Core  
Dr.  
30

BITZER



20.0

RR



| Hole No | Top Elev | Date    |
|---------|----------|---------|
| 9-44    | 44       | 4-28-42 |

| Time   |        | Depth          | Core  |
|--------|--------|----------------|-------|
| From   | To     | From To        | Recon |
| 8:30A  | 9:30A  | 1-0 52.0 55.0  | 3.0   |
| 9:30A  | 10:30A | 1-0 55.0 58.0  | 3.0   |
| 10:30A | 12:30P | 2-0 58.0 64.0  | 5.5   |
| 12:30P | 2:30P  | 2-0 64.0 74.0  | 8.5   |
| 2:30P  | 4:00P  | 1-30 74.0 88.0 | 1.5   |

Hole No

9-44

4-28-42

|           |           |                        |
|-----------|-----------|------------------------|
| 4:00PM    | 5:50PM    | 1-50 88.0 101.0        |
| 5:50 PM   | 6-40PM    | 0-50 removing core 2.0 |
| 6-40PM    | 7-05PM    | 0-25 runner sick       |
| 7-05 PM   | 8-30 P.M. | 1-25 101.0 106.5       |
| 8-30 P.M. | 9-10 P.M. | 0-40 removing core 4.0 |
| 9-10 P.M. |           | 106.5                  |

The driller has reported this drilled to 121', but the core has not been removed so did not report it.

| Inspector | Foreman    | Crew No | Page |
|-----------|------------|---------|------|
| Allen     | B. T. Zer. |         | 51   |

| Per         | Core  | ReDrill         | W.O     | Time (Hr-Min) |
|-------------|-------|-----------------|---------|---------------|
| Dr-ft       | Dr-ft | ft              | ft      | MES. U. Lost. |
| 3.0 →       | ✓     |                 |         |               |
| 3.0 →       | ✓     |                 |         |               |
| 6.0 →       | ✓     |                 |         |               |
| 10.0 →      | ✓     |                 |         |               |
| 15.0 →      | ✓     |                 |         |               |
| 14          |       |                 |         |               |
| D. R. Curry |       | McKenzie        | 2 (Hay) |               |
| 13.0        |       | Core very seamy |         |               |
| went home   |       |                 |         |               |
| 5.5         |       |                 |         | 1 (McKenzie)  |
| good core.  |       |                 |         |               |

0.0 54.5 0.0 0.0 ✓



18-0

Drilled

4-21-42

|                |      |     |
|----------------|------|-----|
| 0              | 2.0  |     |
| <del>2.0</del> | 4.0  | 2.0 |
| 4.0            | 10.0 | 5.0 |
| 10.0           | 18.3 | 7.0 |
| 18.3           | 20.0 | 1.7 |
| 20.0           | 26.5 | 2.0 |

This is details on 18-0  
core very badly broken up.

Page  
52

Allen-

Per Dr Core  
2.0 Dr.~~4.2~~

6.3 ✓

11.7 ✓

6.5 ✓

2.0 24.5 ✓



Hole No 15+0 Top Elev 529.4 Date 4-28-42

Inspector D.R. Gurry Foreman McKenzie Crew No 1 (McKenzie) 53

| Time |    | Depth  |         | Core   |
|------|----|--------|---------|--------|
| From | To | Hr-Min | From To | Recor. |

|        |   |      |                   |  |
|--------|---|------|-------------------|--|
| 3:15   |   |      | 77.0              |  |
| 4-00PM | 5-20PM  | 1-20 | 77.0 86.0         |  |
| 5-20PM | 5-45PM  | 0-25 | removing core 1.6 |  |
| 5-45PM | 6-45PM  | 1-00 | 86.0 92.0         |  |
| 6-45PM | 7-05PM  | 0-20 | removing core 4.0 |  |
| 7-05   | Driller started operating another machine setup on Hole 9-44 and vacated by sick operator (see page 51) |      |                   |  |

| Perc Dr-ft | Core Dr-ft | ReDrill ft | W.O. ft | Time (Hr-Min) |       |
|------------|------------|------------|---------|---------------|-------|
|            |            |            |         | M&S.U.        | Lost. |
|            |            |            |         | 0-45          |       |
|            | 9.0        |            |         |               |       |
|            | 6.0        |            |         |               |       |
|            | good core  |            |         |               |       |

0.0 15.0





18-0

E 20-? 557.5

4-30-42

|         |        |      |      |      |     |
|---------|--------|------|------|------|-----|
| 8:30 A  | 10:30  | 2-0  | 56.0 | 63.6 | 6.0 |
| 10:30 A | 1:30 P | 3-0  | 63.5 | 71.0 | 4.5 |
| 1:30 P  | 2:30 P | 1-0  | 71.0 | 78.0 | 4.0 |
| 2:30 P  | 4:00 P | 1-30 | 78.0 | 81.0 | 0.0 |

18-0

4-30-42

|         |          |      |      |      |     |
|---------|----------|------|------|------|-----|
| 4:00 PM | 10:00 PM | 6-00 | 81.0 | 89.0 | 2.5 |
|---------|----------|------|------|------|-----|

Allen

Core Dr.

7.5 ✓

~~8~~ 7.5

7.0 ✓

3.0 ✓

H. R. Curry

8.0 ✓

Poor core.

Bitzer

Hay

0.0

33.0

0.0

0.0

RR



7-11

4-30-42

ALLEN

BITZER.

55

8:00 A 9:30 A 1-30 14.0 20.0 4.0

9:30 A 11:30 2-0 20.0 35.0 2.0

.DRAFT.

6.0 ✓

5 ✓

= FINAL =

11.0

PL



39.5

Top Elev. 633.0

1-34-

8:00A 9:30A 1-30 0:0 5.0 3

9:36A 11:00A 1-30 5:0 9.0 2

11:00A 2:30P 3:30 9:0 20.0 10

2:30P 4:00P 1-30 20:0 45:0 5

= FINAL =

Core

~~DC~~

5 ✓

4 ✓

11 ✓

5 ✓

25.0

56



Hole No 1-125  
Top Elev 647.6 ✓  
Date 4-30-42

4:00 PM 8:00 PM 4:00 0.0 25.0

Inspector J. R. Curry  
Foreman  
Crew 57  
McKenzie.

Core Dr.

25.0

Good core.

25.0



Hole No. Top Elev

2-31 601.8

Date

4-30-42

Inspector

H.R. Curry

Foreman

58  
Crew

McKenzie

Per.  
Dr.

Core  
Dr.

Re Dr.

W.O.

1.3

0-30

8-30 PM 9-00 PM 0-30 Moving & Set up.

9-00 PM 10-30 PM 1-30 0.0 10.0

10-30 PM 10-50 PM 0-20 removing core 10.0

10.0

Good core.

Note

0.0 is 14.5' below  
Elev 615.0

1.3

10.0

0.0

0.0



4-37

Top Elev. 539.4

5-4-4/2

12:30P 4:00P

0.0 26.0

Notes

0.0 15 120' below Elev  
550.17 or 538.17

Total depth drilled:  
27.2' below El. 539.4

Allen

Litzey.

59

1.2

26.0 Dark bed-

1.2

26.0

0.0

0.0

pl



4-11

5-4-37

Allen

Bitzer.

60



5-12<sup>5</sup>

Top Elev. 512.0

5-11-1/2

12

010 22-

Notes This hole was drilled previously from 10ft to 13.0ft Today's drilling was from 13'-35"

Elev at start of drilling was 510.75

0 25.9

Ahnen  
Rec. Dr. Core Dr.

BITZER. 61

22.0 Drill Sect. ?

0 25.9 Final depth of hole as measured in field. -DWL.

00 25.9 0.0 0.0

pl



5-37-

Top Elev. 497.1

5-4-42

0:0 8

Notes 0.0 as recorded  
in field notes is Elev  
496.33.

Allen

Litzer. <sup>62</sup>Perc.  
Dr.Core  
Dr.

Re-dr.

W.O.

0.8

8 drilled -

0.8

8.0

0.0

0.0



| Hole No | Top Elev | Date    | Swing    |
|---------|----------|---------|----------|
| 16737   | 548.8    | 5-4-42  |          |
| Time    |          | Depth   | Core     |
| From    | To       | From to | Recorder |

|  |     |     |     |
|--|-----|-----|-----|
|  | 0   | 2.0 |     |
|  | 2.0 | 5   | 10  |
|  | 5   | 10  | 30  |
|  | 10  | 18  | 20  |
|  | 18  | 24  | 3.5 |
|  | 24  | 33  | 1.6 |

| Inspector  | Foreman    | Crew No  | Page      |
|------------|------------|----------|-----------|
| McCown     | Mckenzie   |          | 63        |
| Per. Drill | Core Drift | Tr Drill | W.O. Time |
|            |            | ft.      | ft. M&S   |
|            |            |          | Last      |

|     |                    |         |  |
|-----|--------------------|---------|--|
| 2.0 | (May 1942 - Curry) |         |  |
| 53  | broken             | 1" - 3" |  |
| 5   | broken             | 1" - 4" |  |
| 8   | broken             | 1" - 8" |  |
| 6   | broken             | 1" - 5" |  |
| 9   | bably broken.      |         |  |

2.0 31.0 0.0 0.0



Hole No Top Elev

5+37

Date Swing

5-4-42

Inspector Foreman Crew No Page

McCown Simmons 64

Time

Depth Core

Core Core To Drill W.D. Time Hr Min  
Drill Drill ft. ft. M&SU Last

From To Hr Min

from to Recor

Note Top of Conc to Rock  
= 24"

|    |    |    |
|----|----|----|
| 0  | 6  | 50 |
| 6  | 16 | 35 |
| 16 | 22 | 30 |
| 22 | 25 | 3  |

6

broken 1" to 9"

10

broken 1" + 8"

6

broken 1 - 22,

3

broken 1 - 23

?

8.8 26.0

0 17.2

See pg. 62, this book  
Final depth as measured in field  
-D.V.L.

0 17.2 0.0 0.0

PA.



Hole No 16-37 Top Elev 548.8 Date 5-6-42

Inspector D.R. Curry Foreman Paul Betzer Crew No Richardson Page 65

| Time    |    | Depth  |             | Core  |
|---------|----|--------|-------------|-------|
| From    | To | hr-Min | From To     | ReCOR |
| 8:00 am |    |        | 84.0 85.0   | 1     |
|         |    |        | 85.0 88.0   | 1.5   |
|         |    |        | 88.0 92.0   | 3.5   |
|         |    |        | 92.0 98.0   | 6.5   |
|         |    |        | 98.0 103.0  | 4.1   |
|         |    |        | 103.0 106.0 | 2.1   |
| 4:00 PM |    |        | 106.0 111.0 | 4.7   |

| Perc   | Core   | ReDrills | W.O. | Time (hr-min)                         |
|--------|--------|----------|------|---------------------------------------|
| Dr-ft. | Dr-ft. | ft.      | ft.  | M.S.U. lost                           |
|        | 1.0    |          |      | core broken short                     |
|        | 3.0    |          |      | core has a Number of splits           |
|        | 4.0    |          |      |                                       |
|        | 6.0    |          |      | same core remained from previous run. |
|        | 5.0    |          |      | fair core                             |
|        | 3.0    |          |      | Core broken in short pieces           |
|        | 5.0    |          |      | Good core.                            |

5-6-42 Swing Shift.

McGown

Driller McKenzie.

|         |  |  |             |     |
|---------|--|--|-------------|-----|
| 4:00 PM |  |  | 111.0 119.0 | 3.3 |
| 7:00 PM |  |  | 119.0 124.0 | 3.7 |

|     |                  |
|-----|------------------|
| 8.0 | Broken 1" to 10" |
| 5.0 | Broken 1" to 6"  |

0.0 40.0 0.0 0.0

PR



Hole No 18425 Top Elev Date 5-6-42 Swing

Inspector McClown Foreman Betzer Crew No Page Simmons 66

Time From To hr-Min Depth From To Core Recov

Perc Core ReDrill W.O. Time (hr-Min) Dr-ft. Dr-ft. ft. ft. M&S.U. Lost.

|                |  |    |    |     |  |
|----------------|--|----|----|-----|--|
| 5:30 PM        |  | 0  | 5  | 1.7 |  |
|                |  | 5  | 10 | 3.0 |  |
| 9:00 PM        |  | 10 | 12 | 2.0 |  |
| 9:00 PM        |  | 12 | 18 | 3.0 |  |
|                |  | 18 | 24 | 5.5 |  |
| 12:00 Midnight |  | 24 | 30 | 3.0 |  |

|     |        |          |
|-----|--------|----------|
| 5.0 | broken | 1" to 5" |
| 5.0 | broken | 1" to 6" |
| 2.0 | broken | 1" to 4" |
| 6.0 | broken | 1" to 6" |
| 6.0 | broken | 1" to 8" |
| 6.0 | broken |          |

0.0 30.0 0.0 0.0

Noted



| Hole No | Top Elev | Date    | Depth          | Core  |
|---------|----------|---------|----------------|-------|
| From    | To       | Hrs Min | From to        | Recor |
| 15+37   | 543.9    | 5-6-42  | 0              | 1.7   |
|         |          |         | <del>1.7</del> | 4     |
|         |          |         | 4              | 8.5   |
|         |          |         |                | 2.3   |
|         |          |         |                | 3.0   |

9 00 PM

12<sup>00</sup> Midnight

Inspector McCown Foreman Betzer Crew No Page McKenzie 67

| Perc Drill | Core Drill     | Re Drill | W O ft. | Time His Min | M&SU Lost   |
|------------|----------------|----------|---------|--------------|-------------|
| 1.7        |                |          |         |              |             |
|            | <del>2.3</del> |          |         |              |             |
|            | 4.5            |          |         |              |             |
|            |                |          |         |              | Broken 1-6" |
|            |                |          |         |              | Broken 1-5" |

1.7 6.8 0.0 0.0

RL



Hole No 11, 9-93 Top Elev ~~444.4~~ 555.75 Date 5-9-42

Inspector D. R. Curry Foreman Paul Betze Crew No Richardson Page 68

| Time |    | Depth |     | Core    |
|------|----|-------|-----|---------|
| From | To | hr    | Min | From To |
|      |    |       |     | Recov   |

| Perc    | Core    | Retrid | W. O. | Time (hr-min) |
|---------|---------|--------|-------|---------------|
| Dr. ft. | Dr. ft. | ft.    | ft.   | M.S. U. Lost  |
|         |         |        |       |               |

|         |         |      |                      |                      |
|---------|---------|------|----------------------|----------------------|
| 8-00 AM | 1-00 PM | 8-00 | 0.0                  | <del>13.9</del> 14.3 |
|         | 4-00 PM | 8-00 | <del>13.9</del> 14.3 | 29.9                 |

Through concrete

~~16.0~~  
15.6

Datum: 555.7

0.0 15.6 0.0 0.0

RP



Hole NO Top Elev Date  
20-25 550.0 5-9-42

Inspector Foreman Crew NO Page  
H.P. Curry Paul Betzer Holgate 69

| Time |    | Depth  |         | Core  |
|------|----|--------|---------|-------|
| From | To | hr-Min | From To | Recon |

| Core  | Core   | Re-drill | W.O. | Time  | hr-Min |
|-------|--------|----------|------|-------|--------|
| Dr-ft | Dr. ft | ft       | ft.  | MEQU. | Cost.  |

|      |      |      |      |      |      |     |
|------|------|------|------|------|------|-----|
| 8-00 | 9-00 | 1-00 | 2-00 | 27.5 | 31.0 | 3.0 |
|      |      |      |      | 31.0 | 38.5 | 7   |
|      |      |      |      | 38.5 | 47.0 | 7   |
|      |      |      |      | 47.0 | 50.0 | 1.5 |
|      |      |      |      | 50.0 | 60.0 | 6.0 |

|      |  |  |  |  |                      |
|------|--|--|--|--|----------------------|
| 3.5  |  |  |  |  | core good.           |
| 7.5  |  |  |  |  | core very good.      |
| 8.5  |  |  |  |  | core Broken short.   |
| 3.0  |  |  |  |  | core Broken short    |
| 10.0 |  |  |  |  | core shows open seam |

0.0 32.5 0.0 0.0

pl.



Hole No 19-25 Top Elev 613.2

Date 5-11-42

Inspector J. R. Curry

Foreman Paul Betzer

Crew No Holgate Page 70

| Time |    | Depth |     | Core  |
|------|----|-------|-----|-------|
| From | To | hr    | Min | Recon |

| Per    | Core   | ReDrill | W.O. | Time (hr-min) |
|--------|--------|---------|------|---------------|
| Dr-ft. | Dr-ft. | ft.     | ft.  | MOS. U. Lost  |

8-00AM

52.0 ✓ 57.0 4.5

5.0 ✓

57.0 60.0 1.5

3.0 ✓

60.0 65.0 2.4

5.0 ✓

65.0 70.0 2.0

5.0 ✓

4-00PM 8-00 70.0 77.0 4.2

7.0 ✓

Core very poor.

0.0 25.0 0.0 0.0

Noted



Hole No Top Elev Date  
D. 9-279 ~~Cone~~ <sup>442.9</sup> 455.8 5-11-42

Time Depth Core  
From To hr-Min From To Recov

8-00 AM 0.0 <sup>12.9</sup> ~~12.75~~  
4-00 PM 8-00 <sup>12.9</sup> ~~12.75~~ 24.25

8-00 AM 4-00 PM 8-00 24.25 39.25

Datum: 455.8

Note 0.5 ft of core remaining  
in hole. Pay then will  
only be for 26.0.

11.5' of this hole was  
drilled on Sunday

5-10-42

H.R. Curry

Inspector Foreman Crew No Page  
D. R. Curry Paul Betzed Richardson 71

Perc Core ReDrill W.O. Time hr-min  
Dr-ft Dr-ft ft ft Mas. G. Lost.

Through concrete

~~11.5~~

15.0

-0.5

0.0 25.9 0.0 0.0



| Hole No | Top Elev | Date    | Swing |
|---------|----------|---------|-------|
| Time    | Depth    | Core    | Rec.  |
| From To | Hrs Min  | From to |       |

D 9+093

5-11-42 Swing

4-00PM 11-00PM 7-0 ~~16~~ <sup>15.6</sup> ~~26~~ <sup>25.6</sup>

Note this was drilled on swing shift 5-9-42.

| Inspector | Foreman | Crew No | Page |
|-----------|---------|---------|------|
| Perf      | Core    | ReDrill | W.O. |
| Drill     | Drift   | Ft.     | ft.  |
|           |         | M&SU    | Lost |

McCown Betzer, Simmons? 2

10. ✓

00 10.0 00 00 RL



| Hole No | Top Eler | Date    | Swing    |
|---------|----------|---------|----------|
| 20100   | 627.7    | 5-11-42 | Swing    |
| Time    | Depth    | Core    | Recorder |
| From    | To       | His Min | from to  |

|                       |     |      |     |
|-----------------------|-----|------|-----|
| 4 <sup>00</sup> PM    | 2.0 | 7    | 3.3 |
|                       | 7   | 17   | 7.0 |
| 12 <sup>00</sup> Mid. | 17  | 26.5 | 5.0 |

Note above drilling

|      |      |      |      |
|------|------|------|------|
| 4 PM | 26.5 | 32.5 | 5.5  |
|      | 32.5 | 42.6 | 10.0 |
|      | 42.6 | 45.0 | 2.4  |
|      | 45.0 | 55.5 | 10.0 |

| Inspector  | Foreman   | Crew No  | Page         |
|------------|-----------|----------|--------------|
| McCown     | Betzer    | McKenzie | 73           |
| Perc. Core | ReDrill   | W.O.     | Time His Min |
| Drill ft.  | Draft ft. | ft       | M&SU Lost    |

|                  |         |        |        |
|------------------|---------|--------|--------|
| 2.0              | (Curry) |        |        |
| <del>7.5.0</del> |         | broken | 1"-3"  |
| 10.0 ✓           |         | broken | 1"-10" |
| 9.5 ✓            |         | broken | 1"-7"  |

done on Swing Shift 5-9-42

|        |        |        |
|--------|--------|--------|
| 6.0 ✓  | broken | 1"-14" |
| 10.0 ✓ | broken | 1"-52" |
| 2.4 ✓  | broken | 1"-5"  |
| 10.5 ✓ | broken | 1"-32" |

2.0 53.5 0.0 0.0

Noted



| Hole No | Top Elev | Date             | Swing    |
|---------|----------|------------------|----------|
| D7+09.3 | 441.0    | 5-11-42          | Swing    |
| Time    | Depth    | Core             | Recorder |
| From    | To       | Hrs Min. from to | Recorder |

Note <sup>14.8</sup> ~~15'~~ of concrete above rock.

|      |             |      |   |      |
|------|-------------|------|---|------|
| 4 PM | 12 Midnight | 8-00 | 0 | 12.5 |
|------|-------------|------|---|------|

| Inspector  | Foreman | Crew No | Page       |
|------------|---------|---------|------------|
| McCown     | Batzer  | Simmons | 74         |
| Perf. Core | ReDrill | W O     | Time       |
| Drift.     | Drift.  | ft.     | ft.        |
|            |         |         | M&SU Lost. |

12.5

0.0 12.5 0.0 0.0

Noted



Hole No 15+12  
Top Elev Date 5-11-42  
Time HrsMin Depth Core  
From To From To Rec.

~~18~~  
~~15~~ 25 5°

Note this work done Swing

Inspector Foreman Crew No Page  
McLown Betzer McKenzie. 75  
Perf. Core ReDrill WO Time HrsMin  
Drift Drift ft. ft. Masu Lost.

~~7~~  
~~10~~ broken 1" to 22"

5-7-42.

0.0 7.0 0.0 0.0

pl  
25' depth



| Hole No | Top Elev     | Date    | Depth   | Core |
|---------|--------------|---------|---------|------|
| From    | To           | Hrs Min | from to | Rec. |
| 14+37   | <u>519.9</u> | 5-11-42 |         |      |
|         | Time         |         |         |      |

|      |      |     |
|------|------|-----|
| 0    | 7.5  | 3°  |
| 7.5  | 12.5 | 5°  |
| 12.5 | 17.5 | 4.7 |
| 17.5 | 25.0 | 7.5 |

Note this work done

| Inspector | Foreman  | Crew No  | Taps      |
|-----------|----------|----------|-----------|
| McCown    | Betzer   | Mckenzie | 76        |
| Pera Core | Re-Drill | WD       | Time      |
| Dr. Drift | ft.      | ft       | M&SU Lost |

|       |        |        |
|-------|--------|--------|
| 7.5 ✓ | broken | 1"-12" |
| 5.0 ✓ | broken | 1"-20" |
| 5.0 ✓ | broken | 1"-12" |
| 7.5 ✓ | broken | 1"-22" |

5-7-42 Swing Shift

0.0 25.0 0.0 0.0

pl.



Hole No 19-0 Top Elev. --- Date 5-13-42

Inspector --- Foreman --- Crew No --- Page 77

| Time |    | Depth   |         | Core   |
|------|----|---------|---------|--------|
| From | To | hr-Min. | From To | Recov. |

| Perf  | Core  | ReDrill | W.O. | Time (hr-min) |      |
|-------|-------|---------|------|---------------|------|
| Dr-ft | Dr-ft | ft      | ft   | ms. & l       | lost |

1<sup>st</sup> P 4<sup>th</sup> P 3-0 12.0 ~~19.0~~ 17 ✓ 5.0

~~7.0~~ 5.0 ✓ ~~13.0~~

Tree drilled from 0.0 To 12.0 - float-

12.0

5-13-42 Swing McCown

Note Core 17-19

|                   |      |      |     |
|-------------------|------|------|-----|
| Left in hole this | 17 ✓ | 23.5 | 1.8 |
| draw pulled them. | 23.5 | 26.0 | 2.5 |
| 4-PM              | 26.0 | 33.5 | 6.5 |
|                   | 33.5 | 37.0 | 1.5 |
| 12 Midnight.      | 37.0 | 40.5 | 1.0 |

|       |                 |
|-------|-----------------|
| 6.5 ✓ | Broken 1" - 3"  |
| 2.5 ✓ | Broken 1" - 5"  |
| 7.5 ✓ | broken 1" - 13" |
| 3.5 ✓ | broken 1" - 4"  |
| 3.5   | broken 1" - 3"  |

0.0 28.5 12.0 0.0

RL



Hole No 17-18<sup>c</sup> Top Elev. conc 455.83 Date 5-13-42

Inspector D.R. Curry Foreman Paul Betzer Crew No Richardson Page 78

| Time |    | Depth  |         | Core<br>Recov. |
|------|----|--------|---------|----------------|
| From | To | hr-Min | From To |                |

|                       |        |      |       |      |  |
|-----------------------|--------|------|-------|------|--|
| 8-00am                | 3-00pm | 7-00 | 25.73 | 32.0 |  |
| moving to hole D 9+37 |        |      |       |      |  |

| Perc<br>Dr-ft | Core<br>Dr-ft | ReDrill<br>ft | W.O.<br>ft | Time (hr-Min) |      |
|---------------|---------------|---------------|------------|---------------|------|
|               |               |               |            | M.S.U.        | Lost |

6.27

0.0 6.3 0.0 0.0

pl



Hole No Top Elev Date Mc Cown  
97372 442.6 5-13-42

Time

From To hrs Min From To.

4<sup>00</sup> PM 12 Midnight 8<sup>00</sup> 0 13.5

Note Concrete 18.5ft. above  
Rock

13.5

PL



DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1 1/2 TO 1.

FOR SINGLE TRACK EMBANKMENT.

|    | 0    | .1   | .2   | .3   | .4   | .5   | .6   | .7   | .8   | .9   |    |
|----|------|------|------|------|------|------|------|------|------|------|----|
| 0  | 7.0  | 7.2  | 7.3  | 7.5  | 7.6  | 7.8  | 7.9  | 8.1  | 8.2  | 8.4  | 0  |
| 1  | 8.5  | 8.7  | 8.8  | 9.0  | 9.1  | 9.3  | 9.4  | 9.6  | 9.7  | 9.9  | 1  |
| 2  | 10.0 | 10.2 | 10.3 | 10.5 | 10.6 | 10.8 | 10.9 | 11.1 | 11.2 | 11.4 | 2  |
| 3  | 11.5 | 11.7 | 11.8 | 12.0 | 12.1 | 12.3 | 12.4 | 12.6 | 12.7 | 12.9 | 3  |
| 4  | 13.0 | 13.2 | 13.3 | 13.5 | 13.6 | 13.8 | 13.9 | 14.1 | 14.2 | 14.4 | 4  |
| 5  | 14.5 | 14.7 | 14.8 | 15.0 | 15.1 | 15.3 | 15.4 | 15.6 | 15.7 | 15.9 | 5  |
| 6  | 16.0 | 16.2 | 16.3 | 16.5 | 16.6 | 16.8 | 16.9 | 17.1 | 17.2 | 17.4 | 6  |
| 7  | 17.5 | 17.7 | 17.8 | 18.0 | 18.1 | 18.3 | 18.4 | 18.6 | 18.7 | 18.9 | 7  |
| 8  | 19.0 | 19.2 | 19.3 | 19.5 | 19.6 | 19.8 | 19.9 | 20.1 | 20.2 | 20.4 | 8  |
| 9  | 20.5 | 20.7 | 20.8 | 21.0 | 21.1 | 21.3 | 21.4 | 21.6 | 21.7 | 21.9 | 9  |
| 10 | 22.0 | 22.2 | 22.3 | 22.5 | 22.6 | 22.8 | 22.9 | 23.1 | 23.2 | 23.4 | 10 |
| 11 | 23.5 | 23.7 | 23.8 | 24.0 | 24.1 | 24.3 | 24.4 | 24.6 | 24.7 | 24.9 | 11 |
| 12 | 25.0 | 25.2 | 25.3 | 25.5 | 25.6 | 25.8 | 25.9 | 26.1 | 26.2 | 26.4 | 12 |
| 13 | 26.5 | 26.7 | 26.8 | 27.0 | 27.1 | 27.3 | 27.4 | 27.6 | 27.7 | 27.9 | 13 |
| 14 | 28.0 | 28.2 | 28.3 | 28.5 | 28.6 | 28.8 | 28.9 | 29.1 | 29.2 | 29.4 | 14 |
| 15 | 29.5 | 29.7 | 29.8 | 30.0 | 30.1 | 30.3 | 30.4 | 30.6 | 30.7 | 30.9 | 15 |
| 16 | 31.0 | 31.2 | 31.3 | 31.5 | 31.6 | 31.8 | 31.9 | 32.1 | 32.2 | 32.4 | 16 |
| 17 | 32.5 | 32.7 | 32.8 | 33.0 | 33.1 | 33.3 | 33.4 | 33.6 | 33.7 | 33.9 | 17 |
| 18 | 34.0 | 34.2 | 34.3 | 34.5 | 34.6 | 34.8 | 34.9 | 35.1 | 35.2 | 35.4 | 18 |
| 19 | 35.5 | 35.7 | 35.8 | 36.0 | 36.1 | 36.3 | 36.4 | 36.6 | 36.7 | 36.9 | 19 |
| 20 | 37.0 | 37.2 | 37.3 | 37.5 | 37.6 | 37.8 | 37.9 | 38.1 | 38.2 | 38.4 | 20 |
| 21 | 38.5 | 38.7 | 38.8 | 39.0 | 39.1 | 39.3 | 39.4 | 39.6 | 39.7 | 39.9 | 21 |
| 22 | 40.0 | 40.2 | 40.3 | 40.5 | 40.6 | 40.8 | 40.9 | 41.1 | 41.2 | 41.4 | 22 |
| 23 | 41.5 | 41.7 | 41.8 | 42.0 | 42.1 | 42.3 | 42.4 | 42.6 | 42.7 | 42.9 | 23 |
| 24 | 43.0 | 43.2 | 43.3 | 43.5 | 43.6 | 43.8 | 43.9 | 44.1 | 44.2 | 44.4 | 24 |
| 25 | 44.5 | 44.7 | 44.8 | 45.0 | 45.1 | 45.3 | 45.4 | 45.6 | 45.7 | 45.9 | 25 |
| 26 | 46.0 | 46.2 | 46.3 | 46.5 | 46.6 | 46.8 | 46.9 | 47.1 | 47.2 | 47.4 | 26 |
| 27 | 47.5 | 47.7 | 47.8 | 48.0 | 48.1 | 48.3 | 48.4 | 48.6 | 48.7 | 48.9 | 27 |
| 28 | 49.0 | 49.2 | 49.3 | 49.5 | 49.6 | 49.8 | 49.9 | 50.1 | 50.2 | 50.4 | 28 |
| 29 | 50.5 | 50.7 | 50.8 | 51.0 | 51.1 | 51.3 | 51.4 | 51.6 | 51.7 | 51.9 | 29 |
| 30 | 52.0 | 52.2 | 52.3 | 52.5 | 52.6 | 52.8 | 52.9 | 53.1 | 53.2 | 53.4 | 30 |
| 31 | 53.5 | 53.7 | 53.8 | 54.0 | 54.1 | 54.3 | 54.4 | 54.6 | 54.7 | 54.9 | 31 |
| 32 | 55.0 | 55.2 | 55.3 | 55.5 | 55.6 | 55.8 | 55.9 | 56.1 | 56.2 | 56.4 | 32 |
| 33 | 56.5 | 56.7 | 56.8 | 57.0 | 57.1 | 57.3 | 57.4 | 57.6 | 57.7 | 57.9 | 33 |
| 34 | 58.0 | 58.2 | 58.3 | 58.5 | 58.6 | 58.8 | 58.9 | 59.1 | 59.2 | 59.4 | 34 |
| 35 | 59.5 | 59.7 | 59.8 | 60.0 | 60.1 | 60.3 | 60.4 | 60.6 | 60.7 | 60.9 | 35 |
| 36 | 61.0 | 61.2 | 61.3 | 61.5 | 61.6 | 61.8 | 61.9 | 62.1 | 62.2 | 62.4 | 36 |

Calculated by Julien A. Hall, M. Am. Soc. C. E.

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